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Record of Decision:

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Interim Remedy Record of Decision
Continental Steel Superfund Site
Kokomo, Howard County, Indiana
July 1996

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Acknowledgment

The Interim Remedy Record of Decision was prepared with the support of individuals from the staff of the Indiana Department of Environmental Management and the U.S. Environmental Management Agency. The principal authors and major contributors for this version are:

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DECLARATION FOR THE INTERIM REMEDY RECORD OF DECISION

SITE NAME AND LOCATION

Continental Steel Superfund Site
Kokomo, Howard County, Indiana

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected interim remedy for the Continenta1 Steel Superfund site in Kokomo, Howard County, Indiana, which was chosen in accordance with the Indiana State Cleanup Law, Indiana Code 13-25-4 et. seg. (formerly 13-7-8.7 et. seq.), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the administrative record for this site.

This decision document also serves as the Indiana Department of Environmental Management's (IDEM) concurrence with and adoption of the interim remedy decision for the Continental Steel Superfund site, as approved by the United States Environmental Protection Agency (U.S. EPA), pursuant to sections 104(d) and 117 of CERCLA, the NCP and the Cooperative Agreement (VO05072-01-7) between the U.S. EPA and the IDEM.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Interim Remedy Record of Decision, may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE REMEDY

This remedial action is an interim remedy for the Continental Steel Superfund site. This interim remedy addresses the contamination detected inside the deteriorated Main Plant buildings and in the Main Plant building basements. As this is an interim remedy, the remaining surface, and sub-surface contamination will be addressed in a future final remedy.

The major components of the selected interim remedy include:

- Gross removal of lead dust from contaminated building interiors using vacuuming and/or pressure washing with disposal of dust as hazardous waste in a permitted facility;
- Management and proper disposal of rinsate collected from decontamination. Rinsate water will be managed as hazardous waste until receipt of waste characterization analyses;
- Asbestos abatement by removal and disposal at a permitted facility of exposed friable asbestos-containing materials and asbestos containing building insulation;
- Confirmation sampling to ensure proper decontamination;
- Removal of PCB-contaminated wood block floors and disposal as hazardous waste;
- Demolition of all building superstructures, tanks, and equipment to grade, leaving floor slabs;
- Salvaging of structural steel as scrap unless it can be decontaminated and reused as originally intended;
- Disposal of all debris and demolition rubble as hazardous, special or non-hazardous waste as determined by waste characterization;
- Use of water spray for dust control during demolition. Dust control water runoff will be contained and managed properly to prevent the transport of contaminants from the immediate demolition site;

- Pumping out flooded basements, removal of equipment and residue from basements, and filling of basements. The pumped water will be managed as hazardous waste until receipt of waste characterization analyses;

- Filling or covering of pits;

- Confirmational sampling to verify effectiveness of decontamination;

- Finishing of unpaved areas with crushed stone; and

- Securing of the site after the interim remedy is completed.

DECLARATION

The selected Interim Remedy (IR) is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the IR, and is cost effective. This IR utilizes permanent solutions.

This IR will leave hazardous substances above health-based levels remaining on-site in the groundwater and in the surface and sub-surface soils. The IR will be consistent with the final remedy proposed plan that is anticipated to be completed by June 1997. Removal of the buildings will increase the efficiency of the remediation of the surface and subsurface soils, foundation areas and basements by removing contamination and hazardous materials prior to the final remedy implementation. The final remedy will ensure that the whole site will be remediated to provide adequate protection of human health and the environment.

Based on the information described above, the IDEM with the U.S. EPA in the exercise of their authority have selected this interim remedy under an agreement between the IDEM and the U.S. EPA pursuant to section 104(d) of CERCLA.

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SUMMARY FOR THE INTERIM REMEDY RECORD OF DECISION

I. Site Name, Location, and Description

The Continental Steel Superfund Site is located on West Markland Avenue in the City of Kokomo, Howard County, Indiana. The total site encompasses about 183 acres and consists of an abandoned steel manufacturing facility (Main Plant), pickling liquor treatment lagoons (Lagoon Area), a former waste disposal area (Markland Avenue Quarry), and a former waste disposal and slag processing area (Slag Processing Area). The components of the site are shown on the site location map on Figure 1. The Main
Plant is the portion of the facility south of West Markland Avenue and east of Wildcat Creek. The Main Plant includes 25 buildings, many of which are severely deteriorated. The Main Plant building locations and designations are shown on Figure 2.

Waste pickle liquor, used to remove by-products such as scale and rust from cooling steel, was stored in the Lagoon Area. In 1984,1985 and 1986, IDEM identified chromium, cadmium, lead and iron in the on-site ground water. The Lagoon Area was then proposed for inclusion on the National Priorities List (NPL) in June 1988. The site was formally placed on the NPL in March 1989. Further investigation of the Markland Avenue Quarry and the Main Plant Area confirmed additional contamination attributable to Continental Steel. The water in the quarry contained traces of organic solvents, low levels of copper, zinc and mercury, and had a pH range from 11.5 to 12.6. The Main Plant area was contaminated with PCBs, baghouse dusts (a listed waste containing chromium and lead) and sludge contaminated with trichlorethylene.
The Markland Avenue Quarry and the Main Plant were proposed for aggregation to the site and were added to the site in May 1990.

The area surrounding the facility is a mixed residential, commercial, and industrial area and is zoned for general use, except for the Main Plant which has an industrial-use-only deed covenant. Residential properties are located to the east of the Main Plant, a mix of residential and industrial properties exist
to the north and west, and industrial properties are located to the south. The closest residents to the plant are located within 100 feet east of the site, near the property fence line along South Leeds Street, and south of the Main Plant across Kokomo Creek. Highland Park a public recreation area for area residents, lies to the south of the Main Plant just across Kokomo Creek.

The Main Plants consists of about 94 acres and includes abandoned buildings with floor areas ranging from 10,000 square feet to 400,000 square feet. Many buildings have basements, some of which are flooded with ground water. A network of underground sewers and utility lines are also located on-site. Some processing equipment has been removed from the facility.

II. Site Operational History

The Continental Steel corporation was founded as the Kokomo Fence Machine Company in 1896. In 1899, the Kokomo Fence Machine Company was consolidated with other interests to form the Kokomo Nail & Wire Company. In 1900, the company was reorganized under the name of the Kokomo Steel & Wire Company. Two 75-ton open-hearth furnaces were erected in 1914, and a third open-hearth furnace was placed in service in 1917. In 1927, the Kokomo Steel& Wire Company merged with two other steel companies to form the Continental Steel Corporation. By 1947, the other two steel companies were divested, and the Continental Steel Corporation manufacturing facilities were centered in Kokomo.

In 1969, the Continental Steel Corporation was acquired by New York-based Penn-Dixie Industries, Inc. which officially dropped the Continental Steel name for the Kokomo facility in 1974. Penn-Dixie Industries, Inc. filed for Chapter 11 reorganization bankruptcy in 1980, and emerged from bankruptcy in 1982 as the reorganized Continental Steel Corporation. The main offices were then moved from New York to Kokomo. Continental Steel Corporation filed for Chapter 11 bankruptcy in 1985. The facility closed in February 1986 when the bankruptcy filing was converted to Chapter 7 liquidation.

Throughout its history, the plant produced nails, wire, and wire fence from scrap metal. Operations included reheating, casting, rolling, drawing, pickling, annealing, hot-dip galvanizing, tinning, and oil tempering. The steel manufacturing operations at the plant included the use, handling, treatment, storage, and disposal of hazardous materials.

III. Site Enforcement Activities

The U.S. EPA and the IDEM filed claims in the Continental Steel Corporation bankruptcy, seeking funds to be used for environmental cleanup of the site. Under a settlement approved by the Bankruptcy Court on July 12, 1989, over time Continental Steel paid approximately $2.5 million into a trust fund to be used by the IDEM to help fund cleanup of the lagoon area. In exchange for those payments, the agencies agreed not to sue the bankrupt company for any additional funds or cleanup. The remainder of the available funds were used to make partial payment on the company's pension obligations to its employees.

The Main Plant area and two other portions of the former Continental Steel facility were purchased by Matthew L. Gentry through the bankruptcy proceedings for ten dollars each. The two other portions are not considered part of the Superfund site.

The two other portions are the former engineering building on the north side of Markland Avenue, across from the Main Plant, and the corporate offices located at 1111 South Main Street in Kokomo. The U.S. EPA, through the U.S. Department of Justice, objected to the sale of the property to a private individual.
Mr. Gentry executed a stipulation on January 24, 1991, in which his personal liability for the full extent of cleanup costs were carefully detailed. Since this person accepted the liability and obligation to cleanup the site, there was no further legal basis to object to the sale.

On January 23, 1992, the U.S. EPA issued a Unilateral Administrative Order to the owner to insure that any material on-site would not be moved about the site or transported off-site, unless conditions of the Order were met. The conditions included the submission and approval of the requisite plans necessary to complete the work and the proper documentation that any material moved off-site would be properly handled, transported, and disposed of as required by federal and State law.

On February 2, 1993, the U.S. EPA filed a lien on the Continental Steel Superfund site property that, in the event the property is later sold, may enable the U.S. EPA to recover monies expended in the removal and remedial actions conducted at the site.

IDEM and the U.S. EPA, in order to protect the public health and safety, have accomplished significant cleanup of some of the most severe health threats at the site. The owner has cooperated in providing the necessary access to his property for performing these activities. The activities both before and after the site was sold to Mr. Gentry are shown on Table 1.

IV. Community Relations Activities

Community concern about the site began prior to the company's bankruptcy in February 1986. Neighbors near the site complained of airborne dust (believed to be iron oxide) produced during the periods of operation which damaged aluminum siding on houses and automobile finishes. Many former employees still live in the area and are very familiar with the waste handling and disposal practices at the plant. Local environmental activists, neighbors of the site, and the business community have been most interested parties, and would like to see the property contribute to the local community again.

The inclusion of the site on the NPL and the subsequent removal actions have received continuous media and community attention.

The first fact sheet explaining the Superfund process and describing the site and Remedial Investigation activities was produced and mailed to local residents, local officials, the media, and other interested parties circa April 1990. The next fact sheet, distributed in June 1990, described the U.S. EPA removal program, site history, technical terms, and the U.S. EPA and IDEM contacts. It also advertised a public meeting that was held on June 28, 1990, at 7:00 pm in the Kokomo High School South Campus Auditorium. The last fact sheet of 1990 gave an update on the removal and remedial programs, memorialized the two public availability sessions held by IDEM on August 13 and August 29, 1990, and advertised another public availability session that was held on November 14, 1990, at the Kokomo High School South Campus.

Community Relations interviews were conducted during May 1992. Fourteen people, representing a cross sample of interested parties, were interviewed. A fact sheet was distributed in May 1992, explaining that a community relations plan was being developed and requesting that the community provide suggestions for items to be included in the plan. Another fact sheet was distributed in December 1992. It gave an update of the removal and remedial actions, and advertised a two session public availability meeting that was held on December 8, 1992, at the Community Meeting Room of the United Way of Howard County building.

A fact sheet distributed in May 1993, continued the community involvement by providing an update of activities at the site and advertising a Remedial Investigation/Feasibility Study "Kick Off" meeting. The meeting was held on May 6, 1993, at 7:00 pm in the Council Chambers at the Kokomo City Hall. The first phase of sampling was completed by November 1993.

Indiana State Representative Jon R. Padfield held a Town Meeting on June 10, 1995, in the Auditorium of Indiana University/Purdue University at Kokomo. IDEM staff presented a project update and participated in a question and answer period.

Congressman Steve Buyer and Congressman Mike Oxley held a public meeting on August 10, 1995, in the Conference Room of the Howard County Government Building. IDEM and U.S. EPA staff conducted a site tour before the meeting and provided a project update at the meeting.

A meeting to discuss the redevelopment of the site was held on August 31, 1995, in the Lake Superior Room of the Ralph H. Metcalfe building in Chicago, Illinois, which was requested by Howard County officials, Kokomo City officials and local community leaders. U.S. EPA and IDEM staff provided a project update, program perspective, and future project schedule.

The Kokomo/Howard County Business/Labor Alliance sponsored the creation of a Community Action Group. The purpose of the group was to form a community consensus for the cleanup and redevelopment of the site. The consensus-building meeting was held on October 10, 1995, in the Conference Room at the Howard County Government building. Eighteen leaders representing most aspects of the community formed the group, and fifty-two people attended. A consensus on the role of community involvement was developed and approved by all in attendance.

A fact sheet was distributed in November 1995, during the second phase of sampling at the site. This fact sheet provided an update of activities and advertised another two session public availability meeting that was held on November 16, 1995 at the United Way building.

The Community Action Group sponsored a meeting of the Continental Steel local neighborhood area residents on January 11, 1996, at the Ivy Tech State College. Over 973 invitations to attend this meeting were mailed, and 21 local residents attended. IDEM staff presented a site update and answered questions.

The requirements of CERCLA regarding public participation in the interim remedy selection process were met by issuing the proposed plan fact sheet to the public February 28, 1996. The public comment period commenced March 1, 1996 and ended March 30, 1996. A public meeting was held March 14, 1996 at the Ralph W. Neal Council Chambers, Kokomo City Hall to accept written and oral public comments on the proposed plan. A court reporter was in attendance to proved a transcript of the public meeting. Seventy-eight people were in attendance.

V. Scope and Role of Response Action

The interim remedy addresses all of the Main Plant buildings which are part of the larger Main Plant source area, as well as debris and waste that have been stored on site since the removal actions. Other contaminated media at the Main Plant, such as surface soil, subsurface soil and ground water will be addressed by a final remedy document prepared for the entire site.

IDEM is currently conducting a Focused Remedial Investigation and Feasibility Study (RI/FS) of the entire site in accordance with CERCLA. The entire site is comprised of four source areas and two affected media. In order to facilitate the Focused RI/FS, these areas were designated as operable Units (OUs). OUs are areas that can be studied individually and then can be included as a part of the Focused RI/FS for the entire site. A list of the OUs is as follows:

- OU1 - Ground water - affected media;
- OU2 - Lagoon Area - source area;
- OU3 - Kokomo and Wildcat Creeks - affected media;
- OU4 - Markland Avenue Quarry - source area;
- OU5 - Main Plant Area - source area; and
- OU6 - Slag Processing Area - source area.

The Focused RI/FS will evaluate the nature and extent of contamination and assess the human and environmental risks posed by the contaminants associated with the entire site. The Focused RI/FS will evaluate potential alternatives for remediation of the source areas.

This interim remedy focuses on the buildings at the Main Plant source area as investigation work has indicated that they pose an imminent threat to public health and the environment. This interim remedy is intended to address the Main Plant buildings independently of the Focused RI/FS. The purpose of the interim remedy is to reduce the risks to public health and the environment and eliminate the physical hazards posed by all the structures.

The interim remedy identified for the Main Plant buildings may be implemented in an expedited fashion, in accordance with interim remedial measure and removal action regulations identified in the NCP, 40 CFR 300. The need for an interim remedial measure at the Main Plant source area is based on the extent of risk/hazard posed by all the Main Plant buildings. The interim remedial measure would be implemented in conjunction with the ongoing Focused RI/FS program for the Main Plant source area. It is also anticipated that the interim remedy will aid in more efficient performance of the final remedy.

VI. Summary of Site Characteristics

Surrounding Areas and Populations

Kokomo and Wildcat Creeks run along the borders of the Main Plant source area and the Lagoon Area. The creeks have received water from the plant's wastewater recycling and filtration system, as well as neutralized pickle liquor from the Lagoon Area and storm water runoff from the site.

The total site is located in a mixed residential, commercial, and industrial area and is zoned for general use. The owner of the Main Plant area which is covered by this interim remedy placed a covenant for industrial-use-only on the property deed. Therefore, the area covered by this interim remedy can only be used for industrial purposes.

Residential properties are located to the east of the Main Plant, a mix of residential and industrial properties exist to the north and west, and industrial properties are located to the south. The closest residents to the plant are located within 100 feet east of the site along South Leeds Street and south of the Main Plant source area across Kokomo Creek. Highland Park, a public recreation area for the residents of Kokomo, lies to the south of the Main Plant just across Kokomo Creek.

Structures and Topography

The Main Plant formerly consisted of two tracts of land bisected by West Markland Avenue. However, the Main Plant source area listed under the Superfund designation and covered by this interim remedy consists of about 94 acres located south of West Markland Avenue. The Main Plant source area includes more than 25 abandoned buildings with floor areas ranging from 10,000 square feet to 400,000 square feet. Many of the buildings contain basements, some of which are flooded with groundwater. Some processing equipment has been removed from the facility.

The IDEM and the U.S. EPA conducted a site reconnaissance on August 23, 1995, to assess the feasibility and probable costs of demolishing the buildings. Obvious structural deficiencies were observed in some of the buildings as follows:

- Severely corroded structural steel in Buildings 11 and 70; and,

- Rotten and disintegrating wooden roofs in Buildings 8, 9, 10, 11, 12, 20, 112B, 114, and 122.

In general, the structural condition of the buildings varies considerably with the age and former use of each building. The reconnaissance team also noticed that, in general, any building with corrugated siding suffered from missing or damaged siding panels. This includes buildings adjacent to the residential back yards along the west side of South Leeds Avenue. The degree of deteriorated siding varies depending on the building. Specific instances of damaged siding panels were observed in Buildings 5, 24, 40, 42, 68, 69, 70, and 110.

Many windows were observed to be broken and the fencing at the site had been violated. The fence has been repeatedly vandalized.

Topography across the site is generally level with an average ground surface elevation of 800 feet above sea level.

Sensitive Ecosystems

Preliminary data suggest that there are no endangered, threatened, or rare species existing on or near the Main Plant source area. A preliminary search for site-specific biological or ecological data revealed little useful data for the Main Plant area. Few ecologically critical, sensitive, threatened, or endangered terrestrial species are likely to occur on-site, and no significant impacts to important terrestrial populations or communities are expected from the interim remedy.

Meteorology

Climate is uniform throughout the Kokomo area. Average monthly precipitation ranges between 2.2 and 4.2 inches (U.S. Dept. Of Agriculture, December 1971). Temperatures are relatively mild throughout the year. During the fall and winter months, average monthly temperatures range between 25 and 70 degrees Fahrenheit. During the spring and summer, average monthly temperatures range between 50 and 75 degrees Fahrenheit. Prevailing winds blow from the southwest, but for a few months during the winter, winds blow from the northwest.

Location of Hazardous Substances

The U.S. EPA divided the Main Plant into Areas A through H, as shown on Figure 2. Soil samples and unknown slag materials were analyzed on-site by the U.S. EPA Field Analytical Support Program Laboratory (FASP Lab) for metals, PCBs, and polycyclic aromatic hydrocarbons (PAHs). Samples from inside and outside the Main Plant buildings were collected, including dust/sediment samples from floors and beams, liquid samples from flooded basements and unknown drums, and soil samples from stained areas around the buildings. Soil and dust will be referred to collectively as soil/dust, since residual dust from former activities resides in soil. Fifty-five tanks and 34 drums were also identified.

Based on the results of the U.S. EPA screening investigation, the following contaminants were detected at the Main Plant source area and remain on-site:

- Metals;

- PCBs;
- PAHs;
- Asbestos; and
- Acids.

Additional sampling (Phase II sampling) of all media throughout the entire site was conducted from October through December 1995. The objective of the additional sampling was to obtain sufficient data to complete the Focused RI. The data has been analyzed and has confirmed the previous sampling results. The nature and extent of contamination has been characterized and the information to confirm and implement the selected interim remedy is available.

Quantity, Volume, Size, or Magnitude of Contamination

Several types of contaminants, contaminated soil/dust, and waste were identified in and around the Main Plant buildings and currently exist on-site. Table 2 presents sampling results from removal actions and screening investigation performed at the Main Plant. These concentrations are compared to the U.S. EPA soil screening values (1994) to determine if further investigation is required. The soil screening values are health-based guidelines and are appropriate for screening soil/dust media at the Main Plant.

Metals

Several metals detected in soil/dust may pose a human health or environmental risk. The highest lead contamination, inside the buildings for example, ranged from 14,000 mg/kg to 730,000 mg/kg in Buildings 11, 112A, 24, 29A, and 71B, corresponding to Areas B, A, F, and H, respectively. These concentrations were 35 to about 2,000 times greater than the screening value for lead, which is 400 mg/kg (EPA, 1994). All areas of the Main Plant source area that were sampled contained an indoor average lead concentration greater than 400 mg/kg.

One pile of lead-contaminated soil/dust south of Building 71B contained 88 percent lead (880,000 mg/kg). This material was detected outside of Building 71B in the surrounding surficial/unconsolidated material, and was subsequently moved inside the building. Other metals, such as arsenic, chromium, silver, and zinc, were also present in this residual dust material. All the metals exceed their respective screening value. As seen in Table 2, arsenic ranged from 62 mg/kg to 695 mg/kg, chromium ranged from 223 mg/kg to 8,493 mg/kg, silver ranged from 85 mg/kg to 3,071 mg/kg, and zinc ranged from 95 mg/kg to 279,500 mg/kg. These metal concentrations exceed their respective screening values of 0.4 mg/kg, 390 mg/kg, 390 mg/kg, and 23,000 mg/kg.

A U.S. EPA removal action began in Area A and proceeded into other areas as funds allowed. Only Area A and most of Area B, along with portions of Areas E, F, and H, were grossly decontaminated before removal efforts ceased due to budget restrictions. The Main Plant buildings 112A, 112, 112B, 11, 12, 8, 10, and 122, were grossly decontaminated by the U.S. EPA by removal of dust and debris, which primarily contained lead. After the major debris was removed, these buildings were decontaminated using a HEPAVAC to vacuum the lead dust into bags. Because further cleanup was anticipated, no post-decontamination verification sampling has been conducted to evaluate the effectiveness of the gross decontamination.

Due to the presence of residential housing immediately east of the site, U.S. EPA determined that an immediate threat to human health existed from possible exposure to metals transported by windblown dust. The pile of lead-contaminated soil/dust south of Building 71B was therefore stockpiled inside the southern portion of the building and covered with visqueen. At the conclusion of the removal, stockpiles of potentially lead-contaminated dust and debris were not placed in bags were covered with visqueen. Approximately 75 cubic yards of lead-contaminated soil/dust was stockpiled in Buildings 12, 71B, and 11B (Areas B, H and B). U.S. EPA did not conduct final disposal of debris and waste. The material remains on-site and is proposed for disposal as part of the interim remedy.

PCBs

According to the March 24, 1994, U.S. EPA Action Memorandum, PCBs, in concentrations up to 8,700 mg/kg, were reported around the electrical substation on West Markland Avenue in Area C. Approximately 120 cubic yards of soil was excavated and stockpiled immediately west of the substation and covered with visqueen. This concentration is 8,700 times greater than its screening value of 1 mg/kg (EPA, 1994).

An estimated one cubic yard of PCB-contaminated soil was removed from the area east of Building 112C in Area E. All of this PCB-contaminated soil stockpiled on the Main Plant was disposed off-site upon receipt of analytical data and completion of necessary disposal arrangements.

PCB-contaminated woodblock floors were found in Area B, Buildings 14 and 14A. The woodblock floors were removed with a bobcat, stockpiled in their respective buildings, and covered with visqueen. These materials remain on-site and are proposed for disposal as part of the interim remedy.

PAHs

PAHs detected at the Main Plant source area are associated with the oily wastes formerly produced on-site. PAHs were located in all the building areas A through H, both inside and outside of the buildings. Area D detected PAHs inside the buildings only, and Area G detected PAHs outside of the buildings only. All other areas contained PAHs both inside and outside of the buildings. PAHs are a group of compounds formed during the incomplete combustion of coal, oil, gas, or other organic substances, and are found in substances such as crude oil or coal tar pitch. The PAHs detected are summarized in Table 2. Eight PAHs out of 17 detected exceed their respective screening value. The higher molecular weight PAHs, such as Benzo(a)pyrene (BAP), are more persistent in the environment and are carcinogenic. All PAHs that exceed their respective screening value, except for Pyrene, are carcinogenic. They therefore present a significant hazard following release to the environment. BAP was found inside and outside all building areas at the Main Plant in soil and/or dust. PAHs inside the buildings are proposed for disposal as part of the interim remedy.

Asbestos

Ten samples of pipe insulation were collected from buildings in Areas B, C, and F and were analyzed for asbestos content. Of the ten samples collected, five were found to contain asbestos. Two of the five samples containing asbestos were collected from Area B, Buildings 42 and 54. The remaining samples containing asbestos were taken from Area F, Building 1. Buildings 112, 112A, 112B, and 112C are insulated with an asbestos containing material. No other actions regarding asbestos abatement and/or decontamination were taken. Because there is no maintenance of the Main Plant buildings, asbestos materials on-site are expected to deteriorate and some materials could become friable. Friable asbestos will release respirable asbestos fibers; the latter have been shown to cause lung cancer, including mesothelioma, in humans. These asbestos materials remain on-site and are proposed for disposal as part of the interim remedy.

Acids

Tank T-18, containing acid with a pH of less than 1, was located in Area C. Acid was drained from the tank and placed into five 55-gallon poly drums and stored in Building 123A. A sample of the unidentified acid was sent for Total Organic Carbon (TOC) and Toxicity Characteristic Leaching Procedure (TCLP) metals analyses. The acid was disposed of off-site during the 1993 removal actions.

Contaminated Soil On-site

Prevalent site contaminants include lead and other metals, such as arsenic, as well as PCBs and PAHs. PCBs and PAHs have been detected at various locations around the Main Plant source area. Sampling results indicate that contamination is present in outdoor surface soils. As presented above, a few removal actions have occurred, mainly focusing on PCBs. However, minimal confirmatory sampling was conducted.

Contaminants are clearly present in the on-site soil. However, the vertical extent of these contaminants in the subsurface is unknown and these past releases may have migrated beneath the buildings themselves. Contaminants present in the buildings and surface soils are elevated throughout the Main Plant. It is likely that wind, surface runoff, and past spills have caused general contamination. The Phase II sampling results have further characterized the contamination and will provide information for the remedy design. Surface soil, subsurface soil and ground water contamination are widespread, long term concerns that will be addressed as parts of the final remedy, and are beyond the scope of the present interim remedy decision.

Finally, trace to moderate levels of chlorinated and aromatic hydrocarbons were reported in field analyses of soil samples collected in or adjacent to the buildings. Because these are volatile compounds, surface contamination may be minimal, but there may be substantial subsurface contamination. Such contamination could be a threat for vapors migrating into adjacent indoor residential air spaces, or for contamination of groundwater or nearby Wildcat and Kokomo Creeks.

Other Contaminated Material On-site

During the U.S EPA and the IDEM inspections, a total of 55 tanks, ranging in capacity from 5,000 gallons to 12 million gallons, were identified. Thirty-three vats were also noted. These aboveground and underground storage tanks were predominantly used for oil storage. The contents of most of the tanks were removed and disposed during the removal action.

The U.S. EPA cleaned four large fuel oil tanks in a removal action in the Fall of 1994. The status of the remaining tanks, vats and hoppers will be confirmed via a detailed inventory during the Remedial Investigation and prior to implementation of this interim remedy.

Chemical Attributes of the Hazardous Substances

Many of the hazardous substances remain on-site in the form of contaminated soil/dust. Some waste materials were containerized and stored at the Main Plant buildings in select locations. Some of the containers have burst and the contents have spilled within the buildings. Stockpiles of lead-contaminated dust and debris were placed in Building 71B and covered with visqueen. Buildings 12 and 116 also contain lead-contaminated soil/dust. PCB contaminated woodblock floors in Area B (Buildings 14 and 14A) are stockpiled and covered with visqueen. Asbestos was sampled in Area B (Buildings 42 and 54) and Area F (Building 1), but was not removed and remains on-site. Mercury, from broken thermometers or switches, was found on the floor of the pump house in Area B and collected in a bucket. The bucket containing mercury waste was stored inside this building, and disposal of mercury contamination is proposed as part of the interim remedy.

The buildings are in various stages of deterioration and present a chemical and physical hazard to trespassers. Some areas have deep pits and crevices as well as loose debris, weak building structures and poor lighting. The Main Plant source area perimeter is surrounded by fencing, but the fencing is continually vandalized and does not curtail access. Access to hazards, therefore, cannot be controlled or prohibited.

Targets Potentially Affected by the Site

The likely primary on-site targets affected by the buildings are workers and trespassers. As noted previously, evidence of trespassing has been persistent. Most trespassers include older children and young adults who may be exposed to extreme concentrations of metals and organic contaminants while trespassing on the site. Secondary on-site targets include the City of Kokomo public safety personnel (i.e., firefighters, emergency medical technicians, police officers) who would be on-site to respond to emergency situations or accidents.

The likely primary off-site target would be nearby residents in the neighborhood adjacent to the site. Homes in this area abut the buildings within 100 feet of the east property line. These residents can be affected by materials in the buildings that may migrate from the site in the form of surface water runoff or windblown dust. Of particular concern in this area are children, since lead is a primary chemical of concern, and children are considered the most sensitive sub-population for exposure to this metal. Groundwater is not an immediate issue as most residents of Kokomo receive drinking water from a public water supply. Groundwater could discharge to the creeks, however, and may affect surface water, sediment, and biota.

An off-site environmental target includes the resident species in Kokomo and Wildcat Creeks. These creeks have the potential of being affected by the residual contamination migrating in storm water runoff and/or windblown dust. Organisms that feed on these species could be targets for contaminants, such as PCBs, that bioaccumulate.

VII. Summary of Site Risks

Site-Specific Problems

Based on the information available regarding the amount of contamination on-site, the Main Plant source area poses a significant health hazard. Residual dust known to contain lead and other metals are present on-site and have the potential to migrate off-site to the nearby residential area. The dust presents the highest concentration of mass of metals at the site. Contaminated wastes in drums or piles are also on-site and are a potential source of contamination to human and environmental receptors. The potential for off-site migration of contaminated dust increases as the buildings continue to deteriorate. Dust

has already been observed in surface soil outside of the deteriorated buildings. Also, the high concentrations of some contaminants on-site (e.g., metals and PCBs) and the potential for friable asbestos to release respirable asbestos fibers makes potential exposures for workers and trespassers on-site significant. An interim remedy focusing on the Main Plant buildings would reduce the potential for continual migration of contaminants associated with dust and materials from the site.

The buildings have not been maintained and structural integrity is poor. Basements have been flooded and the depth and content of standing water is not known. Such basements may present both an exposure and a drowning hazard. It is known that young adults frequent the site, and the facility is clearly an attractive nuisance in the local community. Without significant rehabilitation, these structures will continue to deteriorate, causing increased risk of injury and release of pollutants into the environment. The perimeter fence has deteriorated and easy access into the buildings is available. The lack of site restriction makes physical and chemical hazard exposure to the public likely. Fencing has been repaired, but is repeatedly vandalized. The property owner has periodically been requested to provide adequate site security, but has been unable or unwilling to do so. The site is abandoned and covers a large area. These exposures present a risk as they are not controlled and the level of exposure is unknown.

Data Evaluation and Chemicals of Concern

An initial data evaluation was completed for the site in the CDM Work Plan (October 1995). Table 2 identifies contaminants that are present at levels greater than the screening values. The chemicals of concern (COCs) at the Main Plant source area are primarily metals, PCBs, and PAHs. The data are of Level III quality, which adequately identifies the COCs at the site.

Exposure Pathway Evaluation

A number of receptor groups could be exposed to contamination at the currently abandoned Main Plant. Workers involved in building maintenance, site security, remedial investigations, or other efforts could be exposed to contamination and hazards during the course of their work. The buildings are encompassed by a fence along the majority of the perimeter. In several locations noted during the March 15, 1995, site visit, the perimeter fence was breached and in poor repair. Trespassers are expected to find all areas of the Main Plant source area easy to access. Building 24 (Area F) contained evidence of a recent visitation, including footprints and bicycle tracks. Animal tracks were also noted in the same area.

The following is a list of some of the recent episodes of known trespassing:

- In the early 1990s, the fire department was called to rescue a trespasser who had fallen into a pit;
- In the Fall of 1993, the wheels and tires were stolen from the U.S. EPA project trailer;
- In the Fall of 1994, a Bobcat was removed from the site while U.S. EPA staff were present;
- In the Fall of 1994, a U.S. EPA computer was stolen from the on-site field trailer;
- In the Fall of 1994, IDEM repaired approximately 100 feet of damaged security fencing;
- In the Spring of 1995, IDEM repaired several holes in the security fencing;
- In November and December of 1995, staff witnessed trespassers on-site on three different occasions;
- In December 1995, staff witnessed local police in the buildings without health and safety protective equipment. The police were responding to a call of trespassing; and
- In March 1996, the fire department was called to extinguish a fire inside a power supply building.

Residential development abuts the eastern boundary. Prevailing westerly winds suggest that these residential areas could have received or may currently receive windblown contamination from the Main Plant source area. On the west and south, the Main Plant source area is bordered by Kokomo and Wildcat Creeks, respectively. The plant may be a continuing source of contamination to sediments adjacent to and downstream from drainage areas and other release points. Specifically, if the on-site buildings were on fire due to vandalism or other causes, there would be increased exposure potential for on-site workers

and off-site residents.

The exposure pathways are expected to be currently complete since:

- Trespassers are known to frequent areas of contamination, sometimes to salvage parts of the structures or for recreational purposes;
- On-site workers are frequent known areas of contamination;
- City of Kokomo public safety personnel would be on-site to investigate reports of trespassing, for emergency situations or accidents at the site;
- Residential areas are located downwind and immediately adjacent to the site;
- Materials on-site are found in forms likely to be transported by winds;
- Drainage exists to carry contaminants into nearby creeks;
- Site-related contamination has been found in creek sediments down gradient of suspected release points; and
- The buildings pose a physical hazard and may contain potentially friable asbestos.

The potential receptor groups (i.e., on-site workers, trespassers, residents) could be exposed to contaminants via one or more of the following pathways:

- Inhalation of suspended dust particles from contaminated sources or soils;
- Dermal contact with contaminated soil or dust particles;
- Ingestion of contaminated soil or dust particles;
- Ingestion of garden vegetables grown in contaminated soils (or, in the case of children, ingestion of contaminated soil due to the migrating particles; and
- Inhalation of asbestos fibers.

Currently, on-site workers could inhale contaminants re-suspended by winds or mechanical disturbances. Workers might also ingest small amounts of soil and dust or asbestos fibers via hand-to-mouth activity. Dermal contact with contamination is also likely, although such exposures should be minimal for many chemicals of concern, including arsenic and metals.

Evidence of trespassing includes footprints and bicycle tracks that implicate children as the important site users. It can be expected that trespassing also occurs in other source areas and along the creeks. Children, adolescents, and adults might also be expected to consume contaminated fish from the creeks, although there is little information on fishing in the creek, and the creek banks contain warnings posted to warn against fish consumption.

Children and young adults trespassing would be exposed to entrained dust and soil in the same manner as construction workers. Bicycling at the site might provide mechanical disturbance to re-suspend contaminated materials in the air during site visits. Trespassers might also be exposed via ingestion of contaminated soil/dust and contact contaminated waste. Children especially may be less fastidious about hand washing and may be more likely to play in stockpiled materials and/or other contaminated areas. Children might also venture into flooded basements in some buildings where exposure via incidental ingestion of and dermal contact with water might occur.

Residents living near the site may be exposed via inhalation of contaminants migrating off-site in wind. These receptors might also be exposed secondarily to contaminants deposited from air to residential soils. These exposures might occur by incidental ingestion of soil, inhalation of re-suspended soils and dust, and dermal contact with contaminated soils and dusts. In addition, residents could be exposed to contaminants taken up into garden vegetables. This might be particularly important for COCs like PCBs, which can

bioaccumulate to a significant degree.

Toxicity of the Chemicals of Concern

Preliminary data review indicates that high concentrations of lead are present both in surface wastes and in the dust located inside buildings. These wastes also contain significant concentrations of other metals, such as arsenic, as well as PAHs and PCBs. Based on the review of the available data, the following information is provided regarding the COCs at the Main Plant.

Metals and Arsenic

Metals and arsenic are absorbed very poorly through the skin and little exposure is expected via this route. Significant routes of exposure for metals and arsenic are via inhalation of particulate (dust) or incidental ingestion of soil or dust. Lead is likely to be the metal of greatest concern due to the usually high concentrations detected on-site, and the sensitivity of young children to the toxic effects of this metal. Increased blood lead levels in children, in the absence of obvious symptoms, result in a decrease in cognitive abilities (Casarett & Doull, 1991). Low level exposures may also cause slight increase in adult blood pressure.

PAHs

PAHs are not expected to be efficiently absorbed through the skin, although chronic high level dermal exposure to high molecular weight PAHs such as Benzo(a)Pyrene has been shown to cause skin cancer in laboratory animals. Absorption from the lung and intestine is expected to be much more efficient. Reports in humans show that individuals exposed by inhalation or skin contact for long periods of time to mixtures of compounds and PAHs may develop cancer (ATSDR, 1989). Studies in laboratory animals have confirmed carcinogenesis when PAHs are ingested, applied to skin, or breathed in the air for long periods of time.

PCBS

Animal studies with rats and mice have shown liver effects following ingestion of PCBs orally or less directly by consumption of tainted foods via the diet. Data concerning human exposure to PCBs is limited, but occupational exposures demonstrate dermal effects such as chloracne and irritation of the eyes if exposure is via PCB-contaminated mist. PCBs have also been shown to bioaccumulate to a significant degree, especially in aquatic systems. Bioaccumulation could be significant where local fish are consumed and/or where local vegetables are grown in contaminated soils.

Asbestos

Asbestos fibers have been shown to cause cancer in humans following inhalation. The mechanism for this carcinogenicity is not clearly defined, but it is clear that there is some risk even when the numbers of fibers present per cubic meter of air is very small. It is not thought that asbestos presents a significant hazard following ingestion or dermal contact.

The above chemicals are present in mixed wastes and exposures are expected to combinations of chemicals. There is uncertainty in evaluating chemical mixtures and little data are available to accurately characterize such effects. However, it is known that, for example, cigarette smoking can exacerbate carcinogenesis caused asbestos. Since PAHs are found in substantial concentrations in cigarette smoke, it is possible that co-exposure to PAHs and asbestos might be associated with greater risk. Effects of exposure to mixtures of chemicals could be significant, especially considering the very high levels of contamination found. The potential for such effects provides additional support for the proposed interim remedial action.

Streamlined Risk Evaluation Conclusion

The results of the streamlined risk evaluation indicate that the Main Plant source area and associated buildings are a source of immediate health risks due to both physical and chemical hazards, and that it is reasonable and effective to address these health risks as part of an interim remedy remedial action.

The streamlined risk evaluation identified the following issues:

- Metals, including arsenic, PCBs, and PAHs have been identified as COCs. These contaminants contain levels significantly greater than each contaminant's respective screening value;

- Friable asbestos a known hazardous material, is present on-site in some buildings. There is the potential for this material to be released to the environment and migrate off-site;

- The most prevalent mobile exposure route at the buildings is through dust, compared to soil, which is found in, around, and about the buildings. Dust is also the most toxic medium, based on lead levels;

- A number of human receptor groups could be exposed to contamination. These receptors include nearby residents, trespassers, (who are known to access the site), and on-site workers (including emergency response personnel);

- Physical hazards are associated with the Main Plant buildings due to the deteriorating structures which can cause physical injury, such as slips, trips, and falls. The buildings are not being maintained and continue to be a physical hazard to trespassers and on-site workers, as well as other safety personnel, such as police officers, emergency medical technicians, and firefighters who may respond to incidents at the site; and

- As the Main Plant buildings continue to deteriorate, there will be increased risk of release of the contaminants contained therein, especially lead dust.

The Main Plant source area, which covers about 94 acres of the 183-acre site, could be a source for approximately 50 percent of site-wide risk based on land area alone. Other sources, such as the Markland Avenue Quarry, Lagoon Area, and Slag Processing Area, would collectively make up the remainder of site risk. Current exposures at these three areas are expected to be smaller because of the nature of the contamination at these areas. For example, much of the slag processing area is slag material, which does not release significant metal concentrations. The Markland Avenue Quarry is effectively fenced and most contamination is found at the bottom of the quarry, underwater and below vegetated areas. The Lagoon Area is also fenced and does not contain any structures that would serve as an attractive nuisance. Therefore, the Main Plant source area poses the most significant current risks, based on the likely short-term exposure scenarios.

Furthermore, the chemical and physical hazards presented by the Main Plant buildings pose the bulk of risks at the Main Plant source area. Overall, the majority of contamination at the Main Plant source area is primarily due to the buildings and the residual materials they contain. Also, the buildings themselves pose serious physical hazards to several on-site and off-site receptors. Based on the results of previous investigations, the lead dust associated with the buildings is the most toxic medium at the Main Plant source area.

VIII. Description of Alternatives

Alternatives were developed based on a streamlined approach to the traditional process of development and screening that would normally be done under a full-scale feasibility study. The streamlined process uses engineering judgment to identify the more appropriate and feasible alternatives for meeting the interim remedial objectives. Once identified, a systematic and qualitative comparison of each alternative is performed to identify the most effective and appropriate interim remedial action.

The streamlined development of alternatives is justified in this case for the following reasons.

- The remedial action under consideration is an interim action. The remainder of the Main Plant source area, and any unmitigated risks from the buildings that remain after the interim remedy, are within the scope of study of the ongoing Focused RI/FS and would be addressed under future remediation efforts; and

- The objectives of the interim remedy are contaminant-related and limited to a single-media source. The objectives include pollutant source and migration control.

Both source control and management of migration alternatives were considered in the development process. Source control measures meeting the remedial objectives would consist of eliminating the source of risks on-site (contaminated dust, PCBs, PAHs and asbestos). Management of migration consists of preventing human

contact with the site risks (prevent direct contact with contaminated dust; prevent windblown dust and asbestos; and prevent interaction with physical hazards) and reducing adverse impacts to groundwater, surface water, and sediment.

The alternatives considered also involved disposition of wastes and debris which have been stored in the buildings and debris from the building demolition. The final determination of the fate of these materials has not been made, but there are a limited number of alternatives. First, the Final Remedial Action for the site may include an on-site landfill. Some wastes could be disposed of on-site in a land disposal unit, if the unit selected in the final remedy and construction of the unit could be completed to coincide with this interim remedy. If the final remedy does not coincide with construction of a land disposal unit, waste materials and construction debris which are contaminated will be disposed of off-site at a compliant facility which is permitted to accept the material. Floor blocks contaminated with PCBs will be disposed off-site at a compliant hazardous waste facility which is permitted to accept PCB waste. Demolition debris and rubble will be characterized, and, if hazardous, will be disposed at a hazardous waste facility. Special waste and non-hazardous waste will be disposed at a solid waste facility permitted to accept special waste or non-hazardous waste as is appropriate.

Four alternatives were identified using this streamlined development process. These alternatives include a "no action" alternative for baseline comparison purposes. Each alternative is outlined in the following section.

Identification of Alternatives

The four potential alternatives include two source-control alternatives which are gross decontamination and subsequent demolition of the buildings and decontamination only of the buildings. One alternative intended to manage migration of contaminants was developed. This alternative is a limited action alternative consisting of securing the buildings and postponing remedial activities concerning the buildings until after the site-wide Focused RI/FS is complete. A fourth alternative, no action, is included to ensure a complete evaluation and serves as a baseline comparison. A summary of the major components of each alternative is provided below.

Alternative 1: No Action
Estimated Present Worth Cost: $0
Estimated Time Frame: Indefinite

This alternative would leave the Main Plant area in its current state until the site-wide Focused RI/FS is completed and appropriate actions undertaken for the site in its entirety. Any potential remediation of the buildings would be evaluated as part of the site-wide Focused RI/FS.

Alternative 2: Immediate Decontamination and Demolition of the Main Plant Buildings
Estimated Present Worth Cost: $8,160,000
Estimated Time Frame: 12-18 months

This alternative would include a gross decontamination followed by demolition of all building structures. The major components of this alternative remedy include:

- Gross removal of lead dust from contaminated building interiors using vacuuming and/or pressure washing with disposal of dust as hazardous waste in a permitted facility;
- Management and proper disposal of rinsate collected from decontamination. Rinsate water will be managed as hazardous waste until receipt of waste characterization analyses;
- Asbestos abatement by removal and disposal at a permitted facility of exposed friable asbestos-containing materials and asbestos containing building insulation;
- Confirmation sampling to ensure proper decontamination;
- Removal of PCB-contaminated wood block floors and disposal as hazardous waste;
- Demolition of all building superstructures, tanks, and equipment to grade, leaving floor slabs;

- Salvaging of structural steel as scrap unless it can be decontaminated and reused as originally intended;

- Disposal of all debris and demolition rubble as hazardous, special or non-hazardous waste as determined by waste characterization;

- Use of water spray for dust control during demolition. Dust control water runoff will be contained and managed properly to prevent the transport of contaminants from the immediate demolition site;

- Pumping out flooded basements, removal of equipment and residue from basements, and filling of basements. The pumped water will be managed as hazardous waste until receipt of waste characterization analyses;

- Filling or covering of pits;

- Confirmational sampling to verify effectiveness of decontamination;

- Finishing of unpaved areas with crushed stone; and

- Securing of the site after the interim remedy is completed.

The decontamination required for this option will be to remove gross accumulations of contaminated materials. This will improve the effectiveness of dust control measures during demolition. The scope of this alternative includes containment of dust and rinsate runoff water to prevent the transport of buildingcontaminants from the site. These measures will include features such as collection troughs and/or plugging of storm drains. The collection troughs will empty into a concrete or similar impervious material sump. The sump design and sump capacity will allow for rain events. The sump water will be characterized and properly disposed of, at a minimum, every 90 days.

The objective for finishing the site after demolition will be to eliminate the physical hazards posed by the remaining pits and cellars, where feasible. These areas will be filled or otherwise secured from entry.

All material and debris will be treated and/or decontaminated in a manner consistent with the requirements of the ultimate disposal location including 40 CFR 268.45. Waste characterization will determine the waste stream disposal location. Some wastes could be disposed of on-site in a land disposal unit if that were selected in the final remedy Record of Decision and Construction of such a land disposal unit could be completed to coincide with this interim remedy. Otherwise, the waste will be disposed of off-site in an appropriate RCRA landfill based on the waste characterization. Upon completion of decontamination and disposal activities, the site would be properly secured to protect human health and the environment.

Alternative 3: Immediate Decontamination of the Main Plant Buildings
Estimated Present Worth Cost: $7,700,000 up to $9,400,000
Estimated Time Frame: 12 months to 3.5 years for site security

This alternative is intended to eliminate contaminants that are mobile in air and to secure the site to restrict access. The components of this alternative are as follows.

- Thoroughly remove dust in contaminated building interiors using vacuum methods followed by pressure washing;

- Dispose of dust as hazardous waste;

- Manage and properly dispose of rinsate collected from decontamination;

- Remove and dispose of stored contaminants in all buildings, including drums, bags and piles of lead dust, and personal protective equipment;

- Remove PCB contaminated wood block floors and dispose as hazardous waste;

- Conduct confirmational sampling to ensure proper decontamination; and

- Provide 24-hour security patrol.

The intent of this alternative is to secure the site on an interim basis to protect the surrounding community from the threat of windblown transport of contaminants by removing the source of contamination. While gross decontamination is sufficient for Alternative 2 because the building and any residual contamination would be removed, Alternative 3 would require a more thorough decontamination. With the buildings remaining, complete removal of contaminated dust from all accessible surfaces will be necessary to achieve the protection stated. In addition, all materials currently stored in the buildings will be disposed of properly. The majority of these materials include various drums, bags and piles of lead dust, and protective equipment. Any contamination from the basements and pits will not be addressed in this alternative, nor will asbestos abatement be performed. The majority of the asbestos material in the buildings consists of transite and galbestos which is contained in the building walls. Therefore, this material could not be removed until buildings walls are demolished.

Demolition activities for the buildings under this alternative would be evaluated as part of the final remedy. The enhanced security measures are intended to prevent unauthorized access to the Main Plant source area and to prevent trespassers from encountering the physical hazards on-site. As part of this alternative, the site will be secured to protect human health (i.e., trespassers and on-site workers) and the environment until site remediation is complete.

Alternative 4: Securing of the Main Plant Buildings as an Interim Action (Limited Action)
Estimated Present Worth Cost: $8,327,000
Estimated Time Frame: 12 months to 3.5 years for site security

This alternative consists of enhancing security on-site and performing physical repairs and modifications to the buildings to prevent windblown contamination from exiting the buildings or humans from entering the buildings. The components of this alternative are as follows.

- Secure all contaminated buildings to prevent windblown dust; repair or cover broken windows, siding and roofs;

- Enclose semi-open structures;

- Repair and/or replace site perimeter fence;

- Implement regular maintenance of buildings and enclosures and regular maintenance of security fencing; and

- Provide 24-hour security patrol.

The intent of this alternative is to secure the site on an interim basis to protect the surrounding community from windblown contaminant transport and to eliminate the potential risks to trespassers, on-site workers and the environment until site remediation is completed. This alternative defers actual contaminant removal actions, if needed, until implementation of the site-wide remediation.

IX. Summary of the Comparative Analysis of Alternatives

The National Contingency Plan requires evaluation of alternatives based on nine criteria by which technical, economic, and practical factors associated with each remedial alternative must be judged. The nine criteria are categorized into three groups: threshold criteria, primary balancing criteria, and modifying criteria. The nine evaluation criteria are summarized below along with a comparative analysis of the alternatives.

Threshold Criteria must be satisfied in order for an alternative to be eligible for selection. The two threshold criteria are: 1) overall protection of human health and the environment; and 2) compliance with applicable or relevant and appropriate requirements:

1) Overall Protection of Human Health and the Environment addresses whether a remedy provides adequate protection of human health and the environment and describes how risks posed through each exposure pathway are eliminated, reduced, or controlled through treatment, engineering controls, or

institutional controls.

Under Alternative 1, no measures would be taken to control or remediate the contamination in the Main Plant buildings during the interim time frame. This alternative provides a basis of comparison for evaluating other proposed remediationalternatives. The no action alternative does not preclude future demolition or decontamination of the Main Plant buildings as part of future site remediation work.

The no action alternative is a feasible alternative when contaminant concentrations are already within levels that correspond to an acceptable risk. Presently, this is not the case, where lead contaminant levels currently present risks to human health from ingestion and other chemical constituents and asbestos are present. In addition, the current deteriorated condition of the building structures also presents a physical hazard. There is the potential for falling building material from some areas of the buildings and there are open pits that trespassers may slip on, trip on, or fall into.

As the residual dust contamination within the buildings migrates off-site, natural processes (dilution) act to reduce contaminant levels in the various environmental media. The no action alternatives depends solely on these natural processes to significantly reduce contaminant levels to where no significant risk is present. Since the no action alternative does not satisfy the threshold criteria, no further criteria evaluations are considered.

Alternative 2 is immediately protective of both human health and the environment, since it reduces the potential for residents to be exposed to contaminated windblown dust, and for on-site trespassers to be exposed to the contamination within the buildings. Demolition of the buildings would also provide two additional benefits. First, the demolition of the buildings would eliminate the attraction of trespassers to gain access to the site. Secondly, the demolition of the buildings would make future remediation activities in the building basements and underlying soils more efficient and effective. Previous field investigations have identified potential contamination in the basements of some of the buildings, as well as in pits within the buildings, that may require remediation. It is reasonable to conclude that subsurface soil contamination in these areas may exist, requiring eventual demolition of the affected buildings prior to remediation.

Alternative 3 would be protective of human health and the environment since contamination in buildings would be reduced significantly. However, lack of structural integrity of some building areas would still be a safety concern for the public.

Alternative 4 could be considered somewhat protective to human health and the environment since the site would be secured and access to the public restricted. However, control of access must be maintained. In addition, enhancing security at the site would not prohibit migration of contamination down gradient to residential areas or the creeks. However, physical repairs made on some buildings would prevent some migration of windblown contamination from exiting the buildings or humans from entering the buildings.

2) Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) addresses whether a remedy will meet all of the ARARs of other Federal and State environmental laws and/or justifies a waiver. The selected remedy must meet this criteria or waiver of the ARAR must be attained.

The remedies for the site are subject to Applicable or Relevant and Appropriate Requirements which are federal and more stringent state regulations. ARARs have been determined in accordance with 121(d)(2) of CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. These ARARs are also consistent with the National Contingency Plan (NCP) 40 CFR Part300, amended March 8, 1990. ARARs are federal or state requirements that the remedial alternative(s) must achieve, that are legally applicable to the substance, or that are relevant and appropriate under the circumstances. Administrative requirements such as agency approvals, record keeping and reporting, and obtaining permits for on-site activities such as waste disposal regulated by states or municipalities would not be considered ARARs.

Alternative 2 would meet or exceed all ARARs for contamination due to the buildings (see pages 36-40, ARARs numbered 1-28).

Alternative 3 would comply with all ARARs. However, asbestos may become more friable in the future and cause a release which would be in violation of 326 IAC 14.

Alternative 4 would not comply with all ARARs. This alternative would not prevent all migration of contamination associated with or stored inside the building structures and would, therefore, not be in compliance with 329 IAC 3.1 or 40 CFR 256.

Primary Balancing Criteria are used to weigh major tradeoffs among alternatives:

3) Long-term Effectiveness and Permanence refer to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, after cleanup goals have been met.

Alternative 2 would provide the greatest long-term effectiveness and permanence. The windblown dust risk would be eliminated because the gross decontamination and demolition of the buildings would remove the source of contamination. The deteriorated condition of the buildings poses a constant threat of collapse and resultant release of contaminants. This alternative holds a secondary benefit in that it would eliminate physical hazards due to the lack of building structural integrity. Also, pits and basements would be filled or secured. This alternative is integral to the final remedy since the buildings will need to be removed or substantially reinforced to remediate the source area.

Alternative 3 would also provide significant effectiveness in preventing human contact with the contaminants over the long-term, but not to the same extent as Alternative 2. The lack of complete long-term effectiveness is due to the fact that decontamination of the buildings, however thorough, would only remove contaminants from accessible areas. Some contaminants in the form of dust would remain in cracks, small spaces, between wall panels, and other inaccessible areas. Trapped dust will eventually be released during demolition of the buildings in the future. This recontamination will reduce long-term effectiveness.

Building decontamination is unlikely to be completely permanent over the long-term. It is likely that contaminants existing in the soils outside of the buildings would migrate back into and onto the buildings. This recontamination could occur by human activity (trespassers and/or site workers) or via transportation as wind-blown dust. The likelihood of wind-blown recontamination of the buildings is especially high in the buildings that have large openings to the outside.

The long-term effectiveness of alternative 4 would depend on the proper maintenance of the building enclosures, and on security measures, which may be difficult to implement at the site.

4) Reduction of Toxicity, Mobility, or Volume through Treatment is the anticipated performance of the treatment technologies a remedy may employ.

Alternative 2, gross decontamination and demolition of the buildings, will eliminate mobility of contaminants associated with the buildings. The gross decontamination of the buildings would reduce the potential for contaminants to migrate off-site during demolition. The final demolition of the buildings would eliminate any future contaminant migration from the building due to further deterioration (i.e., asbestos deterioration). The demolition would also reduce the physical hazards associated with the dilapidated buildings and eliminate an attraction for trespassers to gain access to the site.

Alternative 3 would remove contamination from the buildings and therefore should significantly reduce toxicity, mobility, and volume of contamination to residual levels. Asbestos may still become more friable in the future. The risk to physical hazards would increase with time.

Alternative 4 would not reduce toxicity and volume of contamination since no remedial measures would be taken to remove or reduce this contamination. However, by securing the site from unauthorized access and making repairs on some buildings, mobility to trespassers and nearby residents would be significantly reduced. Security personnel would be protected by protective equipment as necessary.

5) Short-term Effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

Alternative 2 can be readily implemented by standard construction means and equipment. Dust control measures and protective equipment may protect workers. Also, dust control measures could protect and not affect off-site residents. Therefore, this alternative would be considered effective in the short-term. The objective of remedial actions for the buildings are interim and therefore, must be effective in the short-term to be considered appropriate.

Alternative 3, would significantly reduce the short-term potential for the spread of contamination from the buildings due to windblown transport of dusts. The decontamination would consist of the complete removal of all accessible accumulated dust from the interiors of the buildings and disposal of the collected material at an appropriate RCRA facility. However, due to lack of structural integrity of some buildings, it would not be possible to complete decontamination activities in these areas without some structural bracing.

This alternative would also significantly reduce the potential for direct contact with the contaminants by trespassers and workers. Both dust and PCB contaminated flooring would be removed from potential human contact. It is anticipated that the decontamination operation could allow future non-intrusive investigative activities within the buildings to be performed without respiratory protection. Workers could be protected on-site by dust control and protective equipment, and off-site residents could be protected by dust control measures implemented at the site.

This alternative does not address the risk of the physical hazards within the buildings due to the deterioration of the structures or due to the physical features (i.e.,pits and flooded basements).

Alternative 4 would be effective in reducing public exposure to the risk of windblown contaminants migrating from the buildings. It would also be effective in preventing trespassers from contacting contaminants and from encountering physical hazards inside the buildings. Securing the buildings would not be effective in protecting on-site workers from these same risks or residents from exposure to windblown dust in soils outside the buildings.

6) Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

Alternative 2 would be implementable and would require no special technology.

Alternative 3 can be accomplished using readily available equipment and techniques. It is anticipated that all accessible interior surfaces would be cleaned of accumulated dust using HEPA vacuums. Pressure washing of the interiors using fire hoses or power washing equipment would follow. Man-lift equipment would be used to reach the upper interiors of the buildings. Some structural rehabilitation may be required to allow for decontamination in a safe environment.

Alternative 4 is technically feasible. Practical implementation of this alternative would be difficult since fences around the site have continually been breached. However, security personnel would help to prohibit unauthorized access.

Enclosing the various buildings to prevent the escape of contaminated dust would essentially require "weatherproofing" the structures. The type and size of the repairs and/or new construction required to accomplish the weatherproofing would vary depending on the building. Most of the buildings would require repairs to the roofs, windows, siding, and doorways to be sufficient. Due to the dilapidated condition of several buildings, it is questionable whether these repairs can be made safely and effectively. Building No. 11, for example, is typical of many buildings. It has a built-up asphalt roof over wooden planks. The wood roof is rotten and has collapsed in several locations. Covering the collapsed portions of this roof would be difficult to accomplish safely, and would probably cause additional areas to collapse.

Several larger buildings are either semi-enclosed (e.g., Building No. 5) or have expansive openings (e.g., Building No. 125). These buildings would require a significant construction effort to enclose. Maintaining the integrity of the building enclosures is expected to be an ongoing effort. The age and nature of the plant's construction will constantly result in new breaches in the exterior skin of the buildings. As an example, evidence of the loss of building siding was noted in a recent site reconnaissance conducted on September 13 and 14, 1995.

Practical implementation of the security enhancements identified under this alternative would also be difficult. Currently, the Main Plant source area is protected by a security fence around the perimeter of the site. This fence is regularly breached by trespassers, despite efforts to maintain the fence. Construction of a new fence around the site or repair of the existing fence is unlikely to remedy this situation. Evidence of bicycle tracks and footprints indicates that trespassing is being committed by local children and adolescents. The attractiveness of the site to this age group will only increase as investigative and remedial activities commence.

Security patrols are a component of this alternative and would be the most effective means of deterring unauthorized entry. The characteristics of the Main Plant, however, would make security patrols difficult to implement completely.

7) Cost includes estimated capital and O&M costs, also expressed as net present worth costs assuming 3.5 years of O&M until a final remedy for the site can be implemented.

Costs for Alternative 2 are based on the site reconnaissance performed on August 23, 1995. The demolition-related costs are outlined as follows:

Demolition and Gross Decontamination Cost	$ 8,500,000
Salvage Value	$ -960,000
Design Engineering Allowance	$ 200,000
Construction Management Allowance	$ 420,000
Total Demolition Cost	$ 8,160,000

This cost is given in 1995 dollars. This estimate considers decontamination, demolition, dust suppression, waste treatment, basement and rinsate water collection and treatment and scrap steel salvage prices as of August 1995.

Costs for Alternative 3 were derived from the decontamination components of the demolition costs. Accounting for the fact that decontamination efforts would be more thorough under this alternative than under the demolition alternative, it is estimated that immediate decontamination of the Main Plant buildings would cost between $3.9 million and $5.6 million.

If significant structural modifications are required to allow decontamination, the estimated cost would be at the high end of this range. Collection and treatment of rinsate and dust suppression water are required; therefore, the estimated cost could exceed this range.

As stated earlier, the most likely ultimate fate of the buildings is demolition due to subsurface and foundation contamination. It is assumed that this action would be necessary even if immediate, thorough decontamination of the buildings is performed. Decontamination work required for future demolition under this alternative would consist only of asbestos abatement work, because the gross removal of contamination dust, included in Alternative 2, would not be required. The present worth cost of future demolition and asbestos abatement is calculated to be approximately $3,760,000. Thus, the total long-term cost of addressing the buildings, if Alternative 3 is used, would be in the range of $7.7 million to $9.4 million.

Costs for Alterative 4 corresponds with commencement of anticipated final remedy remedial activities and the end of the "interim" period. Additionally, as in Alternative 3, the present worth cost of future demolition should be considered in evaluating the true long-term cost of addressing the buildings under this alternative. This cost also includes approximately 8,000 feet of new security fencing and security patrols for a 3.5-year period. The remaining sum consists of an estimated cost for repairs and modifications required to weatherproof the buildings, and for engineering during design and construction.
This estimate is considered approximate, because an accurate scope of work required to weatherproof the buildings would require an extensive inspection of each building.

A summary of the costs for this alternative is as follows:

Repairs and modifications to secure buildings	$1,337,000
Security fencing	$ 200,000
Security patrols	$ 350,000

Present worth cost of future demolition	$6,440,000
Total cost	$8,327,000

The cost of this alternative, for comparison purposes, is $ 8.3 million.

Modifying Criteria are usually taken into account after public comment is received on the Feasibility Study report and the Proposed Plan. These criteria are:

8) Support Agency Acceptance reflects aspects of the preferred alternative and other alternatives that the support agency favors or objects to, and any specific comments regarding ARARs or the proposed use of waivers.

The U.S. EPA and the IDEM have been involved throughout the site-wide Focused RI/FS and the Interim Risk Assessment/Feasibility Study - Main Plant Buildings. The Agencies concur with the selected remedy which is Alternative 2.

9) Community Acceptance

The attached Responsiveness Summary summarizes the public's general response to the alternatives described in the Proposed Plan and in the Feasibility Study report and addresses questions and concerns expressed during the public comment period. The commentors were generally very supportive of the proposed remedy.

The selected remedy is the same remedy that was proposed in the Interim Remedy Proposed Plan fact sheet.

X. The Selected Remedy

Based on consideration of the requirements of CERCLA, the detailed analysis of the alternatives, and public comments, IDEM and U.S. EPA, Region V have selected Alternative 2 as the most appropriate interim remedy remedial action for the Main Plant buildings of the Continental Steel Superfund site in Kokomo, Howard County, Indiana.

Alternative 1 is not protective of human health or the environment. Alternatives 2, 3 and 4 meet the threshold criteria for overall protection of human health. However, because the buildings would be left standing, safety of trespassers and on-site workers would still be a concern for Alternatives 3 and 4. Alternatives 2 and 3 would be compliant with ARARs. Only Alternative 2 would achieve long-term effectiveness and permanence.

Alternatives 2 and 3 would reduce contaminant toxicity, mobility, and volume through decontamination and removal of contaminants, have short-term effectiveness and be implementable. Alternative 4 does not achieve any of these balancing criteria.

Short-term costs of Alternative 3 and 4 are smaller than Alternative 2. When considering, however, that additional demolition costs are very likely to be incurred in the future if Alternative 3 or 4 is selected now, the long term costs of Alternative 2 and 4 are about the same. Even evaluating long-term costs, Alternative 3 could cost slightly less that the other two alternatives but this cost advantage could prove illusory, because it most likely will cost up to $1 million more than the FS estimate due to anticipated building repair and/or reconstruction.

The U.S. EPA and the IDEM concurrence and community acceptance further support the decision that Alternative 2 - Immediate Decontamination and Demolition of the Main Plant Buildings provides the best balance of trade-offs with respect to the nine criteria used for remedy selection.

The selected interim remedy for the Main Plant buildings is the same preferred alternative presented in the Interim Remedy Proposed Plan developed and issued by IDEM. Details of the components of the remedy may be altered as a result of the remedial design and field conditions encountered during construction. As viable potentially responsible parties have notbeen identified to date, IDEM will submit an application for a Cooperative Agreement with the U.S. EPA to complete construction of the interim remedy action and any modifications necessary to implement the selected interim remedy.

The selected interim remedy is a physical remediation or source control method. Gross decontamination and demolition of the buildings would be conducted. The contaminated dust would be collected during gross decontamination and disposed of as hazardous waste along with the other waste from prior cleanups which has been temporarily stored in some of the buildings on-site. The building demolition material would be disposed of as a non-hazardous waste where possible and as a special or hazardous waste where required. The gross decontamination of the buildings would provide the greatest opportunity to optimize the amount of demolition material that can be recycled or re-used.

XI. Statutory Determinations

The selected remedy must satisfy the requirements of Section 121 of CERCLA to protect human health and the environment and Comply with ARARs. CERCLA also requires that the selected remedial action be cost effective; utilize permanent solutions and alternate treatment technologies to the maximum extent practicable; and satisfy the preference for treatment as a principle element of the remedy. Below is a summary of how the selected remedy meets these statutory requirements:

Protection of Human Health and the Environment

Implementation of the selected interim remedy will eliminate potential risk to human health from exposure to contaminates of concern shown an Table 2.

No unacceptable short-term risk or cross-media impacts will be caused by implementation of the selected interim remedy.

Compliance with ARARs

The selected interim remedial action will meet all identified applicable or relevant and appropriate Federal and more stringent State requirements. The ARARs are classified as chemical, action and location-specific. The ARARs are listed below:

Chemical-Specific Requirements

(1) Clean Air Act (42 USC 7401 et seq.), National Primary and Secondary Ambient Air Quality Standards (40 CFR 50) [EPA Regulations on National Primary and Secondary Ambient Air Quality Standards].

(2) Clean Air Act (42 USC 7401 et seq.), National Emission Standards for Hazardous Air Pollutants (40 CFR 61), Subpart M, National Emission Standards for Asbestos. [Standards for demolition and renovation, asbestos waste disposal].

(3) Solid Waste Disposal Act, as amended (42 USC 6901, et seq.), Land Disposal Restrictions (40 CFR 268) Subpart D, Treatment Standards [Sets the treatment standards for waste extract, specified technology, hazardous waste debris].

(4) Solid Waste Disposal Act, as amended (42 USC 6901, et. seq.), Identification and Listing of Hazardous Waste (40 CFR 261) Subpart B, Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste [Sets criteria for identifying a hazardous waste].

(5) Solid Waste Disposal Act, as amended (42 USC 6901, et seq.), Identification and Listing of Hazardous Waste (40 CFR 261) Subpart C, Characteristics of Hazardous Waste [Identifies the characteristics of a hazardous waste].

(6) Solid Waste Disposal Act, as amended (42 USC 6901, et seq.), Identification and Listing of Hazardous Waste (40 CFR 261) Subpart D, List of Hazardous Waste [List of hazardous waste from sources].

(7) Toxic Substances Control Act, (15 USC 2601, et seq.), PCB use prohibitions (40 CFR 761). [Identifies storage and handling requirements for PCBs].

(8) Air Pollution Control Board (Title 326), Article 6 - Particulate Rules, Fugitive Dust Emissions

(326 IAC 6- 4) [Sets emission limitations for particulate].

(9) Air Pollution Control Board (Title 326), Article 14 - Emission Standard for Hazardous Air Pollutants, Emission Standards for Sources of Asbestos Listed in Section 1 this Rule (326 IAC 14-2) [Presents a list of asbestos sources subject to federal standards].

(10) Solid Waste Management Board (Title 329), Article 2 - Solid Waste Management, Solid Waste Facility Classification and Waste Criteria (329 IAC 2-9) [Describes construction/demolition sites waste criteria and restricted waste sites waste criteria].

(11) Solid Waste Management Board (Title 329), Article 2 - Solid Waste Management, Special Waste (329 IAC 2-21)[Defines what qualifies as a special waste, including asbestos containing waste, and waste characterized as hazardous waste; describes the technical criteria for characterizing special waste and generator responsibility for special waste disposal].

(12) Solid Waste Management Board (Title 329), Article 3.1 - Hazardous Waste Management Permit Program and Related Hazardous Waste Management, Identification and Listing of Hazardous Waste (329 IAC 3.1-6) [Sets list and exemptions of hazardous waste].

(13) Water Pollution Control Board (Title 327), Article 2 - Water Quality Standards (327 IAC 2-1-7 and 2-1-1.5) [Sets requirements for Water Quality Effluent and includes Interim Groundwater Quality Standards].

Location-Specific Requirements

(14) Solid Waste Disposal Act, as amended (42 USC 6901, et seq.), Guideline for the Land Disposal of Solid Wastes (40 CFR 241), Part B - Requirements and Recommended Procedures [Solid, nonhazardous wastes generated as a result of remediation must be managed in accordance with federal and state regulations; this is applicable to waste generated by the remedial action].

(15) Air Pollution Control Board (Title 326), Article 2 - Permit Review, Construction Permits (326 IAC 2-1) [Sets substantive requirements for obtaining a permit prior to construction or modification].

Action-Specific Requirements

(16) Noise Control Act, as amended (42 USC 4901, et seq,); Noise Pollution and Abatement Act (40 USC 7641, et seq.), Noise Emission Standards for Construction Equipment (40 CFR 204) [The public must be protected from noise that jeopardize health and welfare].

(17) Solid waste Disposal Act, as amended (42 USC 6901, et seq.), Standards for Hazardous Waste Generators (40 CFR 262) and Standards for Hazardous Waste Transporters (40 CFR 263); [General requirements for packaging, labeling, marking, and manifesting hazardous wastes for temporary storage and transportation off-site]. Any residues determined to be RCRA hazardous waste destined for off-site disposal are subject to manifest requirements. Remedial actions involving off-site disposal of RCRA listed wastes will be subject to this requirement.

(18) Solid Waste Disposal Act, as amended (42 USC 6901, et seq.), Land Disposal Restriction-RCRA (40 CFR 268)[RCRA Land Disposal Restriction, defines hazardous waste debris. This requirement is applicable to those RCRA hazardous wastes that will be disposed off-site].

(19) Solid Waste Disposal Act, as amended (42 USC 6901, et seq.), Solid Wastes (40 CFR 264), Subpart B, General Facility Standards; Subpart C, Preparedness and Prevention; Subpart D, Contingency Plan and Emergency Procedures; Subpart E, Manifest System, Record Keeping and Reporting [Establishes general requirements for waste compatibility determination, emergency contingency plans, preparedness plans, and worker training].

(20) Solid Waste Disposal Act, as amended (42 USC 6901, et seq.), Solid Wastes (40 CFR 264), Subpart I, Use and Management of Containers; Subpart J, Tank Systems; Subpart L, Waste Piles. [Containers used to store hazardous waste must be closed and in good condition. Tank systems must be adequately designed and have sufficient structural strength and compatibility with the

wastes to be stored or treated to ensure that it will not collapse, rupture, or fail, including secondary containment. Waste piles must be designed to prevent migration of wastes out of the pile into adjacent subsurface soil or groundwater or surface water at any time during its active life].

(21) Solid Waste Disposal Act, as amended (42 USC 6901, et seq.), Solid Wastes (40 CFR 264), Subpart D, (Hazardous waste and debris may be placed in units known as containment buildings for the purpose of interim storage or treatment].

(22) Air Pollution control Board (Title 326), Article 14 - Emission Standard for Hazardous Air Pollutants, Emission Standards for Asbestos; Demolition and Renovation Operation (326 IAC 14-10) [Sets the notification requirements , procedures for asbestos emission control and demolition fees for demolition projects where asbestos may be present].

(23) Water Pollution Control Board (Title 327), Article 5 - Storm Water Run-off Associated with Construction Activity (327 IAC 15-5) [Sets requirements for managing storm water during construction activities, including sediment and erosion control].

(24) Solid Waste Management Board (Title 329), Article 3.1 - Hazardous Waste Management Permit Program and Related Hazardous Waste Management, Standards Applicable to Generators of Hazardous Waste (329 IAC 3.1-7) [Lists those standards applicable to generators of hazardous waste, including manifesting].

(25) Solid Waste Management Board (Title 329), Article 3.1 - Hazardous Waste Management Permit Program and Related Hazardous Waste Management, Standards Applicable to Transporters of Hazardous Waste (329 IAC 3.1-6) [Same standards as 40 CFR 263].

(26) Solid Waste Management Board (Title 329), Article 3.1 - Hazardous Waste Management Permit Program and Related Hazardous Waste Management, Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities (329 IAC 3.1-10) [Same standards as 40 CFR 256].

(27) Solid Waste Management Board (Title 329), Article 3.1 - Hazardous Waste Management Permit Program and Related Hazardous Waste Management, Land Disposal Restrictions (329 IAC 3.1-12) [Sets standards for land disposal restrictions and the adoption of federal land disposal restrictions].

(28) Solid Waste Management Board (Title 329), Article 9 - Underground Storage Tanks, Corrective Action (329 IAC 9-5) [Sets standards for release response, and corrective action, including abatement measures, characterization, and free product removal].

Cost Effectiveness

Cost effectiveness is determined by evaluating the overall effectiveness proportionate to costs, such that the selected interim remedy represents a reasonable value for the money to be spent. The estimated cost of the selected interim remedy is comparable to the expected costs of the other two alternatives in the long run.

Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable

The selected interim remedy provides the most effective and permanent long-term solution to the threat of the Main Plant buildings and materials inside them.

Preference for Treatment as a Principal Element

The selected interim remedy utilizes removal and treatment of wastes and wastewater as its principal elements.

Documentation of Significant Changes

IDEM determined that no significant changes to the interim remedy as it was identified in the Interim Remedy Proposed Plan are necessary.

<IMG SRC 0596310C>
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TABLE 1
Continental Steel Superfund Site
Kokomo, Howard County, Indiana

Summary of Environmental Actions

Date	Action
July 1975	Continental Steel reported a fuel oil spill from a storage tank at the treatment lagoon area. The fuel oil had entered a treatment plant sewer, a storm sewer, and Wildcat Creek. Continental Steel was issued a Notice of Violation for exceeding their NPDES permit discharge limits.
1976	An NPDES compliance inspection conducted by IDEM revealed that the pH of the outfall from the lagoon system (Outfall 004) was out of compliance. A subsequent inspection revealed that the lagoon system outfall contained elevated levels of sulfates, total solids and dissolved solids
November 1980 to September 1983	Between November 1980 and September 1983, 9,000 tons of electric arc furnace dust stockpiled at the Dixon Road Quarry were transferred to a landfill. During that period, an additional 1,000 tons of "as generated" waste was placed in the landfill. According to Continental Steel, no materials were disposed of in the quarry after April 1983. Direct landfilling of the baghouse dust was apparently practiced after that date.
November 1980	Continental Steel submitted a U.S. EPA RCRA Part A Hazardous Waste Permit for treatment, storage and disposal related to the handling of pickling liquor. By submitting the document, and by virtue of being an existing hazardous waste facility, Continental Steel achieved "interim status" as a hazardous waste treatment, storage and disposal facility.
June 1984	IDEM collected groundwater samples from monitoring wells located around the treatment lagoon area. Chromium, iron, sulfate and manganese concentrations and pH values were measured in the samples above the Safe Drinking Water Act (SDWA) standards. The IDEM concluded that Continental Steel should conduct a corrective action to delineate contamination and assess the extent and rate of migration of contaminants from the lagoons.

TABLE 1
Continental Steel Superfund Site
Kokomo, Howard County, Indiana

Summary of Environmental Actions

Date	Action
September 1984	IDEM inspected the treatment lagoon area as part of the U.S. EPA RCRA Permit Approval Process. Wells were installed by Continental Steel to aid in the investigation of elevated pH values in groundwater at the site.
June 1985	IDEM collected groundwater samples from monitoring wells located at the treatment lagoon area. The results confirmed that chromium, iron, sulfate, manganese and pH values exceeded SDWA standards.
August 1985	IDEM performed a U.S. EPA Potential Hazardous Waste Site Preliminary Assessment at the Continental Steel site. The assessment focused on the treatment lagoon area.
November 1985	Continental Steel lost its interim RCRA permit status after being cited in October 1985 for improper containment of baghouse wastes and PCB-containing materials and for the lack of fencing around the lagoon area. The facility continued to deposit wastes in the lagoon area.
February 1986	EPA referred the Continental Steel case to the Department of Justice for the filing of a civil case in the Federal District Court. During May 1986, because Continental Steel continued to deposit wastes in the lagoon area after having lost its interim RCRA status, IDEM issued a complaint, Notice of Opportunity for Hearing and Proposed Final Order to Continental Steel. In September 1986, Continental Steel provided IDEM with a Closure/Post-Closure Plan for the facility which included neutralizing, testing, and covering the surface impoundments.
March 1986	An IDEM Model Facility Management Plan was prepared for the Continental Steel treatment lagoons.

TABLE 1
Continental Steel Superfund Site
Kokomo, Howard County, Indiana

Summary of Environmental Actions

Date	Action
April 1986	IDEM reinspected the lagoons and noted the presence of untreated pickle liquor, lime-stabilized waste pickle liquor sludge, and treated effluent. Waste piles near the impoundments were sampled and EP toxic levels of cadmium and lead were detected. Several samples contained high concentrations of total cadmium, chromium and lead.
May 1986	IDEM performed a Compliance Evaluation Inspection of the treatment lagoons. The IDEM documented that Continental Steel was not monitoring storm water discharges as required by their NPDES permit.
July 1986	U.S. EPA Technical Assistance Team (TAT) conducted a site investigation of the Markland Avenue Quarry. More than 400 drums were observed, most of which were empty. Four drums and two soil samples were analyzed and found to contain elevated concentrations of volatile organic compounds, phenols, phthalates and PCBs. Two samples, collected from the lagoons south of Markland Road, contained low levels of PCB (Aroclor 1248). Versar, Inc. inspected the treatment lagoons for the U.S. EPA Office of Waste Programs Enforcement. A gap was observed in the wall of a lagoon containing spent pickle liquor, though the gap terminated against accumulated sludge and did not appear to compromise the integrity of the lagoon system. Empty drums and cinder piles were also observed. No major areas of contaminated soils or seeping drums were observed near the surface impoundments.
September 1986	IDEM conducted a survey of residences that were subject to potential groundwater contamination from the Continental Steel lagoons. None of the homes surveyed used private wells, and the IDEM concluded that homes were not impacted by the potential groundwater contamination at the site.

TABLE 1
Continental Steel Superfund Site
Kokomo, Howard County, Indiana

Summary of Environmental Actions

Date	Action
January 1987	IDEM conducted a site inspection following U.S. EPA regulations to score the Lagoon Area according to the Hazard Ranking System. The lagoons were scored at 31.85 and as a result were placed on the NPL in March 1989. Shortly thereafter, the Main Plant and the Markland Avenue Quarry were aggregated to the Continental Steel Superfund Site because they were owned and operated by Continental Steel Corporation and had similar contaminants from the same manufacturing processes that threatened the same resources.
October 1987	IDEM sampled Wildcat Creek near the Continental Steel treatment lagoons. Sediment samples contained elevated levels of total cadmium. Tetrachloroethylene (PCE) was detected in two creek water samples.
November 1987	EDI Engineering and Science sampled the Markland Avenue Quarry and the treatment lagoon. Water in the quarry had an elevated pH level (11.45 - 12.69) and contained 93 to 1,600 Ig/l TCE. The acid lagoon wastewater had a pH of 1.8 and contained heavy metals. Low concentrations of organics were observed in the lagoon sediments.
March 1988	Analyses of fish tissue samples collected by IDEM in 1988 from stations located along Wildcat Creek near the City of Kokomo were completed. The results indicated that fish downstream of Kokomo contained PCB concentrations in excess of Federal Food and Drug Administration action levels. As a result, an immediate consumption fish advisory was issued.
April 1988	A final settlement between Continental Steel and its creditors was approved by the U.S. Bankruptcy Court. The settlement provided for a $1.5 million clean-up fund to be set up and distributed by the IDEM.

TABLE 1
Continental Steel Superfund Site
Kokomo, Howard County, Indiana

Summary of Environmental Actions

Date	Action
May 1988	U.S. EPA TAT conducted a site assessment of the Markland Avenue Quarry. The TAT observed hundreds of drums grouped near the quarry, a tank, and a pile of slag, ash and ore factory brick in the central and eastern portion of the site.
October 1988	IDEM conducted fish, sediment and water sampling in Wildcat and Kokomo Creeks. PCBs were not detected in water samples. PCBs were detected in sediment samples with concentrations ranging between 92 and 12,000 Ig/kg.
February 1989	IDEM conducted follow up sediment sampling of Wildcat Creek and Kokomo Creek for PCBs and heavy metals. Results indicated that there were at least three possible sources for the PCBs, including the Continental site.
August 1989	U.S. EPA TAT inspected the Continental Steel site for a possible removal action. The TAT observed the treatment lagoons, and drums stored in the Markland Avenue Quarry.
October	Under the RCRA Program, source control was implemented at the Lagoon Area in 1989. The pickle liquor was treated and discharged to the Kokomo Wastewater Treatment Plant between the fall of 1989 and the summer of 1990.
1989	During 1989, IDEM completed a Preliminary Assessment of the Dixon Road Quarry. The collected information indicated that the quarry had contaminants similar to those at the Continental Site, the waste in the quarry originated from the Continental Steel Corporation manufacturing operations, and the quarry was owned and operated by Continental Steel Corporation. Moreover, contaminants in the quarry appeared to threaten the same resources as the Continental Site (i.e., the limestone aquifer and Wildcat Creek). Based upon these criteria, the quarry was proposed for aggregation to the Continental Site in November 1990.

TABLE 1
Continental Steel Superfund Site
Kokomo, Howard County, Indiana

Summary of Environmental Actions

Date	Action
February 1990	U.S. EPA began removal actions at the Main Plant and Markland Avenue Quarry in February 1990. During 1990, drums at the quarry and Main Plant were collected, staged, characterized and disposed. Capacitors and transformers were removed. Some tank liquids were characterized and disposed, and seven underground storage tanks were removed. Various chemicals were also removed from a laboratory facility at the Main Plant. PCB-contaminated surface soils were removed from the former drum staging area at the quarry. Surface drums were over packed, sampled and disposed of. A berm was also constructed.
March 1990	U.S. EPA and IDEM conducted an assessment at the Continental Steel main plant. During this visit and subsequent visits, approximately 700 55-gallon drums were found scattered throughout the facility. Also observed were 55 tanks, ranging in capacity from 5,000 to 2 million gallons each, and 33 vats of unknown materials. Capacitors and transformers were also noted.
April 1990	April 1990, U.S. EPA conducted an underwater investigation of the Markland Avenue Quarry using a remotely operated vehicle. Approximately 1,000 drums and five storage tanks were identified. In the summer of 1991, U.S. EPA removed over 1,100 drums and several tanks from the quarry bottom.
May 1990	U.S. EPA staged and sampled drums at the main plant. Tank content samples were also collected and the liquids disposed. Capacitor and transformer oils were analyzed and disposed. Drum disposal is on-going.
June 1990	WW Engineering and sciences, Inc. completed discharge of the treated pickle liquor.
September 1990	Soil sampling and analysis for metals, PCBs and VOCs at Fence Plant by ERM-Midwest, Inc.

TABLE 1
Continental Steel Superfund Site
Kokomo, Howard County, Indiana

Summary of Environmental Actions

Date	Action
November 1990	In 1989, IDEM completed a preliminary assessment of the Dixon Road quarry. The collected information indicated that the quarry has similar contaminants to those at the Continental Site, the waste in the quarry originated from the Continental Steel manufacturing operations, and the quarry was owned and operated by Continental Steel. Moreover, it appears to threaten the same resources as the Continental Site (i.e., the limestone aquifer and Wildcat Creek). Based upon these criteria, the quarry was proposed for aggregation to the Continental Site in November, 1990. The aggregation, however, was never finalized.
November 1991	ADCO removed uranyl nitrate and uranyl acetate bottles from a main plant laboratory for disposal at U.S. Ecology.
January 1992	IDEM completed a Management Plan in which manageable areas (OU's) were identified and prioritized. Preliminary scopes, schedules, and budgets were prepared for each OU. Available information related to the site was also obtained and summarized.
May 1992	U.S. EPA removal actions at the Main Plant and Markland Avenue Quarry were completed.
June 1992	IDEM discovered buried drums along the south side of the Lagoon Area.
July 1992	IDEM conducted further soil sampling and analysis for Fence Plant area.
September 1992	IDEM began remedial investigations of the groundwater lagoon area, and Kokomo and Wildcat Creeks.

TABLE 1
Continental Steel Superfund Site
Kokomo, Howard County, Indiana

Summary of Environmental Actions

Date	Action
December 1992	Between December 1992 and February 1993, U.S. EPA removed an estimated 1,350 buried drums from the southwest side of the Lagoon Area (U.S. EPA, 1993). The majority of the drums contained oil, grease, slag, scale, dirt and garbage. U.S. EPA also removed 1,000 cubic yards of TCE-contaminated fill soils from an area of the excavation where several drums of TCE were encountered. An additional 250 cubic yards of oil-stained soils were removed from another area of the excavation that contained oil drums.
April 1993	Major field investigation for the RI took place between April and August of 1993.
August 1993	During August 1993, the U.S. EPA initiated a site assessment of the main plant area. The area was sampled extensively for PCB's, PAH's, asbestos content, and lead. Throughout the removal effort until November 1993, approximately 90 cubic yards of lead-contaminated dust were removed from the plant. Hundreds of cubic yards of lead-contaminated debris were separated, stockpiled, and covered for future disposal. Lead dust and debris were removed or contained on-site in Buildings 112, 112B, 11 & 12, 8, 10, 122, 34, 69, 112A, 123, 123A, 24, 29A, and 71B. Asbestos presence was confirmed for Buildings 42, 54 and 1. U.S. EPA also sampled sewers and drained the acid from tank T-18. Acid was stored in Building 123A.
October 1993	During October 1993, approximately 120 cubic yards of PCB-contaminated soil were excavated from the Markland Avenue electrical substation. The soil was stockpiled next to the excavation area and covered. An additional cubic yard of PCB-contaminated soil was excavated from the western portion of the main plant area and added to the stockpile. Various drums that were collected from around the site throughout the removal effort were stored in Building 123A to await disposal arrangements. Drums of compatible materials had been combined and sampled.

TABLE 1
Continental Steel Superfund Site
Kokomo, Howard County, Indiana

Summary of Environmental Actions

Date	Action
Fall 1994	U.S. EPA removed contents and cleaned above-ground storage tanks numbered T-20, T-1, T-2, and Tl-21. Tanks T-14 and T-15 were emptied, but not cleaned. U.S. EPA removed 1 cubic yard of PCB-contaminated soil from east of Building 112C.
November 1994	IDEM accepted draft of a remedial investigation report Sections 1-4 for the groundwater, lagoon area, and Kokomo and Wildcat Creeks.
December 1994	During December 1994, IDEM reported to the U.S. EPA that one residential well had been affected by the Continental Steel trichloroethene (TCE) groundwater contaminated plume. The U.S. EPA test on December 10, 1994 confirmed contamination with vinyl chloride levels as high as 8.8 Ig/l.
March 1995	EPA installed an air stripper on the residential well.

TABLE 2
Continental Steel Superfund Site
Kokomo, Howard County, Indiana

Summary of Sampling Results from Removal Actions at the Main Plant Buildings and Screening Values for Each Contaminant

Contaminant	Range of Results (mg/kg)	U.S. EPA Screening Value (mg/kg)
METALS		
Arsenic	62-695	0.4
Chromium	223-8,493	390
Lead	14,000-880,000	400
Silver	85-3,071	390
Zinc	95-279,500	23,000
PCBs	8,700*	1
PAHs		
acenaphthene	0.96-51	4,700
acenaphthylene	0.72-300	na
anthracene	0.37-190	23,000
Benz(a)anthracene	1-2,700	0.9
Benzo(a)pyrene	0.65-2,200	0.09
Benzo(b&k)flouranthene	0.43-1,400	na
Benzo(b)fluoranthene	4.7-16	0.9
Benzo(g,h,i)perylene	0.86-8,700	na
Benzo(k)fluoranthene	6.1-36	9
chrysene	1.2-2,900	88
dibenzo(a,h)anthracene	1.2-6,700	0.09
fluoranthene	0.49-2,000	3,100
fluorene	0.31-500	3,100
indeno(1,2,3-cd)pyrene	0.87-1,000	0.9
naphthalene	0.73-460	3,100
phenanthrene	3.3-4,000	na
pyrene	0.51-5,500	2,300

* -Maximum detected concentration
na -not available
Results are the summary of surface soil samples collected from inside and outside of the buildings at the Main Plant (March 24, 1994 - EPA).
Reference. EPA, 1994.

APPENDIX A

Continental Steel Superfund Site
Kokomo, Howard County, Indiana

RESPONSIVENESS SUMMARY
CONTINENTAL STEEL SUPERFUND SITE
KOKOMO, HOWARD COUNTY, INDIANA

RESPONSIVENESS SUMMARY OVERVIEW

The Indiana Department of Environmental Management (IDEM) and the United States Environmental Protection Agency (U.S. EPA) in accordance with CERCLA Section 117, 42 U.S.C. Section 9617 held a public hearing on March 14, 1996, and a public comment period from March 1, 1996, through March 30, 1996, to allow interested parties to comment on the Interim Remedy Proposed Plan for the Continental Steel Superfund Site.

This action is an interim remedy (IR) that addresses the contamination detected inside the deteriorated main plant buildings and in the main plant building basements. As this is an IR, the remaining on-site contamination will be addressed in a future final remedial action.

The selected IR is Alternative 2 - Immediate Decontamination and Demolition of the Main Plant Buildings. The major components of the selected IR include:

- Gross removal of lead dust from contaminated building interiors using vacuuming and/or pressure washing with disposal of dust as hazardous waste in a permitted facility;
- Management and proper disposal of rinsate collected from decontamination. Rinsate water will be managed as hazardous waste until receipt of waste characterization analyses;
- Asbestos abatement by removal and disposal at a permitted facility of exposed friable asbestos-containing materials and asbestos containing building insulation;
- Confirmation sampling to ensure proper decontamination;
- Removal of PCB-contaminated wood block floors and disposal as hazardous waste;
- Demolition of all building superstructures, tanks, and equipment to grade, leaving floor slabs;
- Salvaging of structural steel as scrap unless it can be decontaminated and reused as originally intended;
- Disposal of all debris and demolition rubble in a solid waste landfill;
- Use of water spray for dust control during demolition. Dust control water runoff will be contained and managed properly to prevent the transport of contaminants from the immediate demolition site;
- Pumping out flooded basements, removal of equipment and residue from basements, and filling of basements. The pumped water will be managed as hazardous waste until receipt of waste characterization analyses;
- Filling or covering of pits;
- Confirmational sampling to verify effectiveness of decontamination;
- Finishing of unpaved areas with crushed stone; and
- Securing of the site after the interim remedy is completed.

The selected IR is protective of human health and the environment, complies with Federal and State

requirements that are legally applicable or relevant and appropriate to the IR, is cost effective and utilizes permanent solutions.

This IR will leave hazardous substances above health-based levels remaining on-site in the groundwater and the surface and sub-surface soils. A final remedy will address the remaining site contamination to provide adequate protection of human health and the environment.

Other alternatives that were presented and considered were Alternative 1 - No Action, Alternative 3 - Immediate Decontamination of the Main Plant Buildings and Alternative 4 - Securing of the Main Plant Buildings. Alternative 4 is a limited action with no decontamination. Both Alternative 3 and Alternative 4 require 24-hour site security until a final remedial action can be implemented. No new alternatives were presented by the public either at the public meeting or in the written comments.

BACKGROUND OF COMMUNITY INVOLVEMENT

Community concern about the site began prior to the company's bankruptcy in February 1986. Neighbors near the site complained of airborne dust believed to be iron oxide produced during the periods of operation. This dust damaged automobile finishes and aluminum siding on houses.

Thousands of jobs were lost, and pensions and other benefits were denied as a result of plant's closing and bankruptcy. This remains a concern for former workers, and has provided the basis for legal actions over the years. The money distributed by the bankruptcy court went primarily to pay for employee benefits and for environmental cleanup, though the amount of money remaining did not adequately fund either area.

Many former employees still live in the area and are very familiar with the waste handling and disposal practices at the plant. The former employees have offered information that has been helpful in understanding where contamination could be found and, in some cases, why contamination was found in certain locations. This dialogue is an ongoing process. These former workers have maintained a strong interest in the cleanup of the site.

The Main Plant area, including the buildings, was sold during January 1991 to Mr. Matthew L. Gentry of Kokomo, Indiana, for ten dollars. The sale was conducted by the Continental Steel bankruptcy trustee and approved by the bankruptcy court. The private ownership of the Main Plant area has been a complicating factor for cleaning up the site. The Superfund process requires that the owner clean up the contamination. If the owner does not do the clean up, then the IDEM or the U.S. EPA must do it and try recover the costs.

The inclusion of the site on the National Priorities List and the subsequent U.S. EPA removal actions have received continuous media and community attention. It was noted that the U.S. EPA's removal actions were communicated well to the public, but some citizens and community leaders stated that they would have liked additional information on a more regular basis.

Since April 1990, the IDEM has distributed seven fact sheets and held seven public meetings. The purposes of the fact sheets and meetings were to describe the Superfund process, the site, the removal activities and the remedial investigation activities to local residents, local officials, the media, and other interested parties. Community Relations interviews were conducted during May 1992. Fourteen people, representing a cross sample of interested parties, were interviewed. A community Relations Plan which included these interviews was released in March 1993. The IDEM participated in Indiana State Representative Jon R. Padfield's Town Meeting on June 10, 1995, and Congressman Steve Buyer's public meeting an August 10, 1995, that included Congressman Mike Oxley.

Kokomo Against Pollution, a community group, was formed to follow the investigation and cleanup of the site. This group has followed the activities at the site very closely, and the IDEM has attended many of their monthly meetings.

Other groups that have identified the site as a concern are the Kokomo/Howard County Chamber of Commerce, Leadership Kokomo, Beautification Issues Group, Kokomo/Howard County Business/Labor Alliance, and the Community Action Group. The Community Action Group consists of eighteen leaders of different community groups representing a cross-section of the community.

The requirements of CERCLA regarding public participation in the interim remedy selection process were met by issuing the proposed plan fact sheet to the public February 28, 1996. The public comment period commenced

March 1, 1996 and ended March 30, 1996. A public meeting was held March 14, 1996 in the Ralph W. Neal Council Chambers at the Kokomo City Hall to accept written and oral public comments on the proposed plan. A court reporter was in attendance to provide a transcript of the public meeting. Seventy-eight people were in attendance.

SUMMARY OF COMMENTS AND AGENCY RESPONSES

Listed below are summaries of the public comments received from oral comments at the public meeting and written comments received during the comment period for the Interim Remedy Proposed Plan.

Five oral comments were given at the public meeting. Four comments (including comments from the Mayor and from a City Councilman) supported tearing down the buildings or Alternative 2, the selected remedy. One comment suggested that Howard County would benefit more from keeping some of the heavy-structured buildings and tearing the rest down. This comment seems to be associated more with Alternative 3, immediate decontamination of the buildings, than with Alternative 2, because determination of which buildings should stay would have to be made during a final remedy for the site.

The total number of written comments postmarked within the 30-day comment period was 1,167. An additional 46 written comments were postmarked after March 30, 1996, which was the end of the comment period. A review of these 46 written comments revealed that the comments were similar to the other comments received, and no new information was presented. Therefore, these 46 written comments will not be addressed in this responsiveness summary.

A breakdown of the written comments is as follows; 1,097 agree with Alternative 2 (including written comments from Congressman Buyer, the Kokomo Common Council, and Mr. Gentry and his agent Fortune Management); three agree with Alternative 1; 13 agree with Alternative 3; none agree with Alternative 4; three comment forms were signed, but were blank; and 51 forms offered comments, but did not identify a preferred alternative. The percentage of all responses in favor of the selected IR equals 94.0%. The next greatest number of responses, 4.4%, did not state a preferred alternative. Alternative 3 received 1.1% of the responses and Alternative 1 received 0.3% of the responses.

Three of the oral comments and 508 of the written comments that supported the recommended alternative included additional comments or concerns. The agreement to the remedy was in the form of several phrases which included "agree with Alternative 2", "decontaminate and demolish," "tear down the buildings," and "clean it up." Comments included with the agreement to the remedy expressed several categories of concern. The categories were cost/funding of clean up, danger/sampling of site, timing, ownership, property values and visual appearance, and use.

A response to each of the comment categories follows:

Cost/Funding

The comments concerning cost/funding included "owners should pay," "no cost to taxpayers," "sell bricks as fund raiser," "use local resources," "use surplus tax money," "use welfare recipients as labor," "use correctional inmates as labor," and "any profit should go to the former Continental Steel employees."

Agency Response: The Superfund process requires the owner/operator to pay for any clean up. Any owner or operator of the site is called a potentially responsible party or PRP. If the PRP does not or cannot do the clean up, then the U.S. EPA or the IDEM will clean up the site using monies from the Federal Superfund trust fund or the State Hazardous Substance Response Trust Fund. The U.S. EPA or the IDEM will then try to recover the costs. Cost recovery necessitates complete, detailed documentation of the clean up decision-making process. When Superfund monies are used, the cost recovery process generally occurs after the final clean up action is complete or well underway. At that time, actual costs of the clean up action and ongoing operation and maintenance, if any, will be known. The total cost of the clean up and the documentation of the decision process form the basis of recovering costs from the owner. The IDEM is continually assessing the probability of cost recovery and documenting the decision process in order to recover costs at the appropriate time.

Local resources, and reuse or resale of material salvaged during the cleanup will be utilized to the extent this is possible given the nature and extent of contamination at the site, the cleanup requirements, and the applicable government contracting regulations and requirements.

Danger/sampling of the site

The comments concerning danger/sampling of the site included "dangerous to children," "it's a hazard," "it's a rat trap," "dangerous site," "sample soil," "clean up soil and water," "test water within five-mile radius," "don't believe it's contaminated," and "does not believe any information, but wants it cleaned up."

Agency Response: The U.S. EPA sampling of the main plant area has shown that on-site contamination exists. The IDEM agrees that the Main Plant buildings pose a danger, are hazardous, and certainly could harbor rodents. The IDEM recommended this interim remedy to the U.S. EPA because of the hazards present at the site. Further testing of the soil and water in the area was completed during the Fall of 1996, and will be evaluated in the forthcoming draft Remedial Investigation Report. The next step is to complete a draft of the Feasibility Study. The Feasibility Study will suggest further sampling, if needed, and alternatives for a final remedial action for the whole site.

Timing

The comments concerning timing of the clean up of a site included "should have been done sooner," and "time line serves no one other than bureaucrats."

Agency Response: Many removal actions have already been conducted to eliminate the most immediate threats to the public health and the environment. This recommended alternative is an interim action that will speed up the final remediation of the site. A final remedy that is protective of the public health and the environment must be made with a full understanding of the entire site. Therefore, the final remedy needs extensive sampling and careful thought which takes time to complete. The IDEM and the U.S. EPA are moving as quickly as possible to come to a recommended final remedy for this site.

Ownership

The comments concerning ownership of the site included "city/county should own it" "do not want the city/county involved," and concern about the private ownership of the buildings.

Agency Response: The owner/operator or PRP of a superfund site has the liability to clean up the site. However, the Superfund process does allow that, if a municipality involuntarily acquires a site, the municipality is not liable for past contamination or its clean up. The IDEM makes no recommendation or statement on ownership of the site other than to identify PRPs that may be able to pay for the cost of the clean up. The private ownership of the buildings does complicate the process. If the owner will not decontaminate and remove the buildings properly, then the IDEM and the U.S. EPA must do so and try to recover the costs. To date the owner of the Main Plant Site has cooperated in providing access to the Agencies for their cleanup and investigatory work. The owner has asserted that he does not have the resources to do the cleanup himself.

Property values and visual appearance

The comments concerning property values and visual appearance around the site included "property values suffer" and "it's an eyesore."

Agency Response: The property values around the site may be depressed and the old, deteriorating buildings do not look good. However, these are not criteria of the Superfund process when considering the threat of on-site contamination and alternatives to reduce that threat. A possible side benefit of any clean up would be to enhance the value and appearance of the site to the surrounding community. It is the policy of the IDEM and the U.S. EPA to encourage return of Superfund Sites to productive use to the extent it is safe and feasible after cleanup activity is completed.

Use

The comments concerning use of the site included "leave vacant," "plant trees," "redevelop site," "wildlife habitat," "parking lot," "recreational park," "industrial park," "build homes," build "low income apartments," "turn into certified waste facility," "shopping mall," "prison," "museum/memorial," "horse track," "senior citizens' lodge," "golf course," "hotel/ convention center," and "ball park."

Agency Response: The future use of the Main Plant area is a concern when determining the final clean up goals for the whole site. The property deed for the Main Plant area has a covenant that requires the use of the property to be "industrial use only." This recommended interim remedy does not set a final action clean up level, and it did not intend to do so. The future use of the whole site is a local issue, and the final clean up levels will be determined, in part, by the reasonably anticipated future use of the property, taking into consideration local zoning and deed covenants on the property. Community input and public comment will be sought on the decision establishing final cleanup levels.

The number of written responses that did not state a preferred alternative was 51. Several phrases included in this group were "take whatever action is necessary," "example of bad things done to our environment," "trash it" and "please do something now." Comments expressed similar categories of concern that were discussed previously. The categories were cost/funding of clean up, danger, timing, ownership, visual appearance, and use.

A response to each of the comment categories follows:

Cost/Funding

The comments concerning cost/funding included "owners should pay," "no cost to taxpayers," "use volunteers," "use private industry," "want federal help," "let community take loose scrap," and "profit put back into pension plan."

Agency Response: The Superfund process requires the owner/operator or PRP to pay for any clean up. If the PRP does not or cannot do the clean up, then the U.S. EPA or the IDEM will clean up the site using monies from the Federal Superfund trust fund or the State Hazardous Substance Response Trust Fund. The U.S. EPA or the IDEM will then try to recover the costs. Cost recovery necessitates complete, detailed documentation of the clean up decision-making process. When Superfund monies are used, the cost recovery process occurs after the final clean up action is complete. At that time, actual costs of the clean up action and ongoing operation and maintenance, if any, will be known. The total cost of the clean up and the documentation of the decision process form the basis of recovering costs from the owner. The IDEM is continually assessing the probability of cost recovery and documenting the decision process in order to recover costs at the appropriate time.

Danger

The comments concerning danger of the site included "bad for kids," "hazard," "unsafe," "dangerous," "don't believe it's contaminated," and "overreacting to hazards."

Agency Response: The U.S. EPA sampling of the Main Plant area has shown that on-site contamination exists. The IDEM agrees that the Main Plant buildings pose a danger, and are hazardous. This agreement is the reason the IDEM recommended the interim remedy of decontamination and destruction of the buildings.

Timing

The comments concerning timing of the clean up of the site included "should have been done sooner."

Agency Response: Many removal actions have already been conducted by the U.S. EPA to eliminate threats to the public health and the environment. This recommended alternative is an interim remedy that will speed up the final remediation of the site and be consistent with the final remedy. A final remedy that is protective of the public health and the environment must be made with a full understanding of the entire site. Therefore, the final remedy needs extensive sampling and careful thought which takes time to complete. The IDEM is moving as quickly as possible to come to a final remedy for this site.

Ownership

The comments concerning ownership of the site included "bring in the government superfund," "IDEM/EPA should take control" and "urge government agencies to step out of loop."

Agency Response: The owner/operator or PRP of a superfund site has the liability to clean up the site. However, the Superfund process does allow that, if a municipality involuntarily acquires a site, the municipality is not liable for past contamination or its clean up. The IDEM makes no recommendation or statement on ownership of the site other than to identify PRPs that may by able to pay for the cost of the

clean up. It is not the role of the IDEM or the U.S. EPA to dictate who can own private property. The IDEM is not a property holding entity and cannot take title to a Superfund site.

Visual appearance

The comments concerning visual appearance around the site included "unsightly" and "eyesore."

Agency Response: The old, deteriorating buildings do not look good; however, this is not a criterion of the Superfund process when considering the threat of on-site contamination and alternatives to reduce that threat. A side benefit of any clean up would be to enhance site appearance to the surrounding community.

Use

The comments concerning use of the site included "unproductive," "redevelop," "park," "factory," "homes," "recycling business," "shopping area," "memorial," "general store/grocery," "golf course," and "factory."

Agency Response: The future use of the Main Plant area is a concern when determining the final clean up goals for the whole site. The property deed for the Main Plant area has a covenant that requires the use of the property to be "industrial use only." This recommended interim remedy does not set a final action clean up level, and it did not intend to do so. The future use of the whole site is a local issue, and the final clean up levels will be determined, in part, by the local zoning and deed covenants on the property.

Thirteen comments expressed that the buildings could be decontaminated and some could be reused. The comments fit into two categories, cost/funding and use. The cost/funding comments included "use tax dollars" and "use prisoners to clean up site." Suggested uses of the site included "paint ball facility," "redevelop a steel plant," "recycling center," "park," "manufacturing," "storage," "ski slope," "school bus facility," and "use buildings to block smell from the waste water treatment plant."

Agency response: These comments are analogous to Alternative 3. Alternative 3 is intended to protect the surrounding community from the threat of wind blown transport of contaminants by removing the source of contamination. The possibility of retaining some of the most potentially useful large buildings was considered, but was rejected. Structural deficiencies including severely corroded structural steel were observed in buildings 11 and 70, and the wooden roofs on buildings 8, 9, 10, 11, 12, 20, 112B, 114 and 122 were rotten and disintegrating. All buildings with corrugated siding, such as buildings 5, 24, 40, 42, 68, 69, 70, and 110, were missing or had damaged siding panels. Buildings 112, 112A 112B and 112C are insulated with an asbestos containing material that would need either to be encapsulated or to be removed. Significant structural modifications could be required to allow for decontamination, and could drive the cost of this alternative higher.

Over, the long-term, this alternative would not be completely effective in preventing human contact with the contaminants. The lack of complete long-term effectiveness is due to the fact that decontamination of the buildings, however thorough, would only remove contamination from accessible areas. Some contaminants in the form of dust would remain in cracks, small spaces, between wall panels, and other inaccessible areas. Trapped dust will eventually be released, either during demolition of the buildings or during future use of the buildings. It is likely that contaminants existing in the soils outside of the buildings would migrate back into and onto the buildings. This recontamination could occur by human activity such as trespassers and/or site workers or via transportation as wind-blown dust. The likelihood of wind-blown recontamination of the buildings is especially high in the buildings that have large openings to the outside. This alternative does not address the risk of the physical hazards within the buildings due to the deterioration of the structures or due to the physical features, such as machinery pits and flooded basements. Accounting for the fact that decontamination efforts would need to be more thorough under this alternative than under the demolition alternative, it is estimated that this alternative would cost at least one million dollars more than the selected interim remedy. The comments about cost/funding and use have already been addressed previously in this responsiveness summary.

Three comments suggested that nothing should be done. These comments agree with the no action alternative. The comments included "let it rot to the ground" and "oppose doing anything to the Continental site."

Agency Response: The no-action alternative is a feasible alternative only when contaminant concentrations are already within levels that correspond to an acceptable risk. Presently, this is not the case at the Main Plant buildings, where lead contaminant levels currently present risks to human health from ingestion and

other chemical constituents and asbestos are present. The no-action alternative depends solely on natural processes to significantly reduce contaminant levels to where no significant risk is present. The no-action alternative does not provide any significant protection to human health and the environment. The no-action alternative will allow contaminated dust and friable asbestos to continue migrating off-site via wind dust. This alternative does not reduce the risk of physical hazards within the buildings. In addition, the contamination that is present beneath the buildings in the basements may not be as efficiently or effectively remediated if the buildings are left in place.

While is true that these conditions have been present for some time, the Agencies have limited cleanup resources and previously have focused those resources on threats that were even more imminent than those posed by contamination present in and around these buildings. The IDEM believes it is important to address these buildings now.

APPENDIX B

Continental Steel Superfund Site
Kokomo, Howard County, Indiana

ADMINISTRATIVE RECORD INDEX FOR THE
CONTINENTAL STEEL SUPERFUND SITE
KOKOMO, HOWARD COUNTY, INDIANA

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), requires the establishment of an Administrative Record (AR) upon which the President shall base the selection of a response action (SARA;
Sec. 113(k)(1)). IDEM has compiled the following official Administrative Record Index for the Continental Steel Superfund site, Kokomo, Howard County, Indiana. This index with associated actual file will be updated by IDEM periodically.

ADMINISTRATIVE RECORD INDEX
CONTINENTAL STEEL SUPERFUND SITE
KOKOMO, INDIANA

PG'S	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCUMENT NO.
294	1-1992	Final Management Plan for Continental Steel Site Remedial Investi-	ABB Environmental Services, Inc.	Gabriele Haler, IDEM	PLANS/STUDIES/ REPORTS	1

ADMINISTRATIVE RECORD INDEX
(CONTINENTAL STEEL) Superfund Cleanup Site
KOKOMO, HOWARD COUNTY, INDIANA

NOVEMBER 1994 **UPDATE #1**

Pgs	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOC NO
17	1-23-94	Continental Steel Site Unilateral	USEPA Region 5	Matthew Gentry	Orders Decrees	1
3	4-14-94	Amendment of the (ROD) Dates for Continental Steel	Pat Carrasquero IDEM	Romana Smith USEPA	Correspondence	2
3	8-26-94	Letter of comments for Site Review and Update For Continental Steel	Bernard Schorle USEPA	Louise Fabinski USPHS	Plans Studies Reports	3
12	8-15-94	Site Review and Update for Continental Steel	USPHS	Bernard Schorle USEPA	Plans Studies Reports	4
17	10-26-93	Proposed Bioslurry Tests at T&E, Continental Steel Site	Edward Opatken USEPA	Subhas Sikdar USEPA	Plans Studies Reports	5
13	10-26-93	Field Studies for Biological Characterization	Norman Richardson ABB. Inc	USEPA	Plans Studies Reports	6
57	May 1993	Technical Memorandum #3 RI/FS for Continental Steel Site	ABB Environmental Services	IDEM	Plans Studies Reports	7

ADMINISTRATIVE RECORD INDEX
(CONTINENTAL STEEL) Superfund Cleanup Site
KOKOMO, HOWARD COUNTY, INDIANA

NOVEMBER 1994 **UPDATE #1**

Pages	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOC NO
717	May 1993	Sampling and Analysis Plan Revision #3 for Continental Steel	ABB Environment Services	IDEM	Plans Studies Reports	8
38	May 1993	Work Plan Revision #4 for Continental Steel RI/FS	ABB Environmental Services	IDEM	Plans Studies Reports	9
218	May 1993	Health and Safety Plan for Continental Steel	ABB Environmental Services	IDEM	Plans Studies Reports	10
2	7-12-94	Letter about the cleanup by EPA at Continental Steel	Clayton Duncan Sr.	IDEM	Community Relations	11
6	10-5-93	Letter with questions	William	Gayl	Community	12

		about Continental Steel	Muno USEPA	Catt	Relations	
8	8-26-93	Conference Report for Continental Steel	ABB Environmental Services	IDEM	Community Relations	13
14	4-30-93	Public Meeting plus Questions/Answers for Continental Steel	IDEM	General Public	Community Relations	14

ADMINISTRATIVE RECORD INDEX
(CONTINENTAL STEEL) Superfund Cleanup Site
KOKOMO, HOWARD COUNTY, INDIANA

NOVEMBER 1994 **UPDATE #1**

Pages	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOC NO
22	March 1993	Community relations Plan for Continental Steel	ABB Environmental Services	IDEM	Community Relations	15

ADMINISTRATIVE RECORD INDEX
CONTINENTAL STEEL SUPERFUND SITE
KOKOMO, HOWARD COUNTY, INDIANA

FEBRUARY 1996 **UPDATE #2**

PG'S	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOC NO.
25	3-1-95	Initial Scoping Meeting focused RI/FS	John J. O'Grady, USEPA	Arthur C. Garceau, IDEM	Correspondence	1
2	6-19-95	Amendment Of The ROD Dates For Continental Steel	Pat Carrasquero, IDEM	Romona Smith, USEPA	Correspondence	2
1	9-5-95	Request For RA/FS - Building Demolition Costs	Arthur C. Garceau,IDEM	Mark A. Burgess, Camp, Dresser & McKee, Inc.	Correspondence	3
1	10-13-95	Approval of Technical Memorandum - Background Contaminate Levels	Arthur C. Garceau, IDEM	Mark A. Burgess, Camp, Dresser & McKee, Inc.	Correspondence	4
4	3-1-95	Conditional Approval Of QAPP For Focused Remedial Investigation/Feasibility Study	John J. O'Grady, USEPA	Arthur C. Garceau, IDEM	Correspondence	5
1	12-7-95	Approval of Site Work Plan	Romona R. Smith, USEPA	Pat Carrasquero IDEM	Correspondence	6
1	12-8-95	Approval Of Focused RI/FS Work Plan, Figures, And Appendices A And B	Arthur C. Garceau, IDEM	Mark A. Burgess, Camp, Dresser & McKee, Inc.	Correspondence	7
1	12-20-95	Approval Letter For Documents For The Continental Steel Superfund	Romona R. Smith, USEPA	Pat Carrasquero IDEM	Correspondence	8

ADMINISTRATIVE RECORD INDEX
CONTINENTAL STEEL SUPERFUND SITE
KOKOMO, HOWARD COUNTY, INDIANA

FEBRUARY 1996
UPDATE #2

PG'S	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOC NO.
1	1-9-96	Approval Letter, Documents For The Continental Superfund Site	Arthur C. Garceau, IDEM	Mark A. Burgess, Camp, Dresser & McKee, Inc.	Correspondence	9
2	1-29-96	Formal Request And Support To Demolish Buildings At Continental Steel Superfund Site	James E. Trobaugh	Kathy Prosser, Commissioner IDEM	Correspondence	10
2	1-30-96	Formal Request And Support To Demolish Buildings At Continental Steel Superfund Site	Dave Griffey, Howard County Commissioner	Kathy Prosser, Commissioner IDEM	Correspondence	11
1	1-30-96	Approval Letter Of The QAPP For The Continental Steel Superfund Site	Romona R. Smith, USEPA	Pat Carrasquero, IDEM	Correspondence	12
1	2-6-96	Approval Of Phase II Quality Assurance Project Plan	Arthur C. Garceau, IDEM	Mark a. Burgess, Camp, Dresser & McKee, Inc.	Correspondence	13
7	8-2-95	Continental Steel/Superfund Site Visit/Meeting (8/10/95)	Heather Johnson, Congressman Steve Buyer' Office	Art Garceau, IDEM	Memoranda	14
7	8-31-95	Continental Steel Redevelopment Meeting (Chicago 8/31/95)	John O'Grady, USEPA	Art Garceau, IDEM	Memoranda	15
6	9-22-95	IDEM Continental Steel Superfund Site RI/FS Background Contaminant Levels	Mark A. Burgess, P.E.	Art Garceau, IDEM, John O'Grady,	Memoranda	16

ADMINISTRATIVE RECORD INDEX
CONTINENTAL STEEL SUPERFUND SITE
KOKOMO, HOWARD COUNTY, INDIANA

FEBRUARY 1996
UPDATE #2

PG'S	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOC NO.
14	1-30-96	Continental Steel Treatability Studies	Edward R. Bates, USEPA	Art Garceau, IDEM	Memoranda	17
67	3-7-95	Remedy Selection Level Bench-Scale Bioslurry Study On Contaminated Soil From The Continental Steel Superfund Site	Douglas W. Grosse, TSAP Coordinator, USEPA	Bernard Schorle,	Plans/ Studies	18
USEPA		Reports				
11	8-28-95	Continental Steel Superfund Site Technical Memorandum-Building	Mark A.Burgess, P.E., Camp, Dresser & McKee, Inc.	Arthur C. Garceau, IDEM	Plans/ Studies/ Reports	19
12	2-1-96	Gravity Dewatering Testing Results	Mark A. Burgess, P.E., Camp, Dresser & McKee, Inc.	Mr. Ed Bates USEPA	Plans/ Studies/ Reports	20
403	11-95	Phase II Quality Assurance Project Plan Investigation/Feasibility Study	Camp, Dresser & McKee, Inc.	IDEM	Plans/ Studies/ Reports	21
264	10-20-95	Focused RI/FS Work Plan	Camp, Dresser & McKee, Inc.	IDEM	Plans/ Studies/ Reports	22
78	10-20-95	Focused RI/FS Work Plan Figures	Camp, Dresser & McKee, Inc.	IDEM	Plans/ Studies/ Reports	23
220	10-20-95	Focused RI/FS Work Plan Data Summary Tables and Preliminary	Camp, Dresser & McKee, Inc.	IDEM	Plans/ Studies/ Reports	24

ADMINISTRATIVE RECORD INDEX
CONTINENTAL STEEL SUPERFUND SITE
KOKOMO, HOWARD COUNTY, INDIANA

FEBRUARY 1996
UPDATE #2

PG'S	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOC NO.
225	10-20-95	Phase II Field Sampling Plan	Camp, Dresser & McKee, Inc.	IDEM	Plans/ Studies/ Reports	25
214	10-6-95	Focused RI/FS Health And Safety Plan	Camp, Dresser & McKee, Inc.	IDEM	Plans/ Studies Reports	26
23	10-95	Community Relations Plan	Camp, Dresser & McKee, Inc.	IDEM	Plans/ Studies/ Reports	27
78	2-96	Interim Risk Assessment/ Feasibility Study - Main Plant Buildings	Camp, Dresser & McKee, Inc.	IDEM	Plans/ Studies/ Reports	28
2	5-14-95	News Article	H.W. Peabody, and Boyd Jenkins	Kokomo Tribune	Community Relations	29
1	5-17-95	News Release - IDEM Undertakes Investigation And Study At Continental Steel Superfund Site	IDEM	News Media	Community Relations	30
1	6-13-95	News Article	Jeff Parrott, Kokomo Tribune - Staff Writer	Kokomo Tribune	Community Relations	31
1	6-21-95	Appreciation Letter - Town Meeting (6/20/95)	Jon R. Padfield, State Representative	Art Garceau, IDEM	Community Relations	32
1	9-15-95	News Release - IDEM Warns Public Not To Trespass On Continental Steel Superfund Site In Kokomo	IDEM	News Media	Community Relations	33

ADMINISTRATIVE RECORD INDEX
CONTINENTAL STEEL SUPERFUND SITE
KOKOMO, HOWARD COUNTY, INDIANA

FEBRUARY 1996
UPDATE #2

PG'S	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOC NO.
1	10-10-95	News Release - IDEM Begins Site Investigation At Continental Steel Superfund Site In Kokomo	IDEM	News Media	Community Relations	34
1	10-12-95	News Release - IDEM Announces Community Action Group Meeting For The Continental Steel Superfund Site in Kokomo	IDEM	News Media	Community Relations	35
6	11-15-95	Fact Sheet - Public Availability Sessions	IDEM	Public & News Media	Community Relations	36
2	11-17-95	Community Action Group - Meeting (10/25/95)	Shannon Christiansen, IVY Tech State College	Art Garceau, IDEM	Community Relations	37
1	1-9-96	News Release - IDEM And Community Action Group Announce Neighborhood Meeting For The Continental Steel Superfund Site In Kokomo	IDEM	News Media	Community Relations	38
4	1-11-96	Residents Surrounding Continental Steel Mill Site Meeting (1/11/96)	Shannon Christiansen, IVY Tech State College	Public	Community Relations	39
12	2-28-96	Fact Sheet - Interim Remedy Proposed Plan - Building Demolition	IDEM	Public & News Media	Community Relations	40
4	10-30-95	ARAR's	Arthur Carter, IDEM George Oliver, IDEM Tena Hopkins, IDEM	Art Garceau, IDEM	ARAR's	41

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ADMINISTRATIVE RECORD SAMPLING/DATA INDEX

Documents not copied, may be reviewed at the Indiana Department of Environmental Management's Office--Indianapolis, Indiana

DATE	TITLE	AUTHOR	RECIPIENT	DOC/TYPE
5-4-94	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
4-6-94	QUALITY ASSURANCE REPORT PACKAGE #1581.1	HERITAGE LABORATORIES	MANUELA JOHNSON	REPORT
3-17-94	QUALITY ASSURANCE REPORT PACKAGE #1548	HERITAGE LABORATORIES	MANUELA JOHNSON	REPORT
3-11-94	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
3-4-94	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
2-2-94	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
1-27-94	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA

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ADMINISTRATIVE RECORD SAMPLING/DATA INDEX

Documents not copied, may be reviewed at the Indiana Department of Environmental Management's Office--Indianapolis, Indiana

DATE	TITLE	AUTHOR	RECIPIENT	DOC/TYPE
1-13-94	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
12-27-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
12-20-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
12-13-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
12-3-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
12-9-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
12-3-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA

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ADMINISTRATIVE RECORD SAMPLING/DATA INDEX

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DATE	TITLE	AUTHOR	RECIPIENT	DOC/TYPE
11-29-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
11-15-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
11-9-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
11-5-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
10-27-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
10-20-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
10-14-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA

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DATE	TITLE	AUTHOR	RECIPIENT	DOC/TYPE
10-12-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
10-8-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
9-29-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
9-22-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
9-15-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
9-13-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
9-10-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA

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DATE	TITLE	AUTHOR	RECIPIENT	DOC/TYPE
9-10-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
9-3-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
8-28-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
8-24-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
8-17-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
8-13-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
8-13-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
8-11-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA

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DATE	TITLE	AUTHOR	RECIPIENT	DOC/TYPE
8-11-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
8-10-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
8-6-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
8-5-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
8-4-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
7-30-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA
7-28-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA

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DATE	TITLE	AUTHOR	RECIPIENT	DOC/TYPE
7-27-93	CONTINENTAL STEEL CORP LABORATORY RESULTS	BERNARD J SCHORLE	GABRIELE HALER	SAMPLING DATA

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ADMINISTRATIVE RECORD, CONTINENTAL STEEL FIELD DOCUMENTATION/DELIVERABLES

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DATE	TITLE	AUTHOR	RECIPIENT	DOC/ TYPE
3-14-95	OU1/TASK 3A	DON WALSH	G HALER	LTR
11-3-93	OU1/TASK 3C	DON WALSH	G HALER	LTR
9-10-93	OU1/TASK 3C	DON WALSH	G HALER	LTR
8-5-93	OU1/TASK 3D	DON WALSH	G HALER	LTR
10-29-93	OU1/TASK 3D	DON WALSH	G HALER	LTR
3-11-94	OU1/TASK 3D, 3G, 3M	DON WALSH	G HALER	LTR
3-15-93	OU1/TASK 3D, 3G, 3M	DON WALSH	G HALER	LTR
6-14-93	OU1/TASK 3F	DON WALSH	G HALER	LTR
11-3-93	OU1/TASK 3F	DON WALSH	G HALER	LTR
10-29-93	OU1/TASK 3G	DON WALSH	G HALER	LTR
9-16-93	OU1/TASK 3G	DON WALSH	G HALER	LTR
3-17-94	OU1/TASK 3H, 3I, 3K	DON WALSH	G HALER	LTR
10-29-93	OU1/TASK 3H, 3I, 3K	DON WALSH	G HALER	LTR
8-5-93	OU1/TASK 3H	DON WALSH	G HALER	LTR
8-5-93	OU1/TASK 3I	DON WALSH	G HALER	LTR

8-6-93	OU1/TASK 3J	DON WALSH	G HALER	LTR
8-5-93	OU1/TASK 3K	DON WALSH	G HALER	LTR
11-17-93	OU1/TASK 3L	DON WALSH	G HALER	LTR
9-10-93	OU1/TASK 3L	DON WALSH	G HALER	LTR

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ADMINISTRATIVE RECORD, CONTINENTAL STEEL
FIELD DOCUMENTATION/DELIVERABLES

Documents not copied, may be reviewed at the Indiana Department of Environmental Management's Office--Indianapolis, Indiana

DATE	TITLE	AUTHOR	RECIPIENT	DOC/ TYPE
9-10-93	OU1/TASK 3L	DON WALSH	G HALER	LTR
6-8-94	OU1/TASK 3M	DON WALSH	ART GARCEAU	LTR
8-5-93	OU1/TASK 3M	DON WALSH	G HALER	LTR
10-19-93	STEPPED DISCHRGE TEST RESULTS	K HEWITT & D WALSH	B DAVIS & G HALER	MEMO
10-29-93	OU1/TASK 3M	D WALSH	G HALER	LTR
11-1-94	OU1/TASK 14	D WALSH	G HALER	LTR
6-21-93	OU1/TASK 14	D WALSH	G HALER	LTR
2-15-94	OU2/TASK 3A	D WALSH	G HALER	LTR
8-5-93	OU2/TASK 3A	D WALSH	G HALER	LTR
11-3-93	OU2/TASK 3A	D WALSH	G HALER	LTR
3-18-93	OU2/TASK 3B, 3F 7B	D WALSH	G HALER	LTR
10-19-93	OU2/TASK 3A	D WALSH	G HALER & B SCHORLE	MEMO
10-29-93	OU2/TASK 3B, 3F	D WALSH	G HALER	LTR
9-22-93	OU2/TASK 3B, 3F	D WALSH	G HALER	LTR
11-3-93	OU2/TASK 3C	D WALSH	G HALER	LTR
6-21-93	OU2/TASK 3C	D WALSH	G HALER	LTR
6-21-93	OU2/TASK 3D	D WALSH	G HALER	LTR
11-3-93	OU2/TASK 3D	D WALSH	G HALER	LTR
6-22-93	OU2/TASK 3E	D WALSH	G HALER	LTR
11-3-93	OU2/TASK 3E	D WALSH	G HALER	LTR

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ADMINISTRATIVE RECORD, CONTINENTAL STEEL
FIELD DOCUMENTATION/DELIVERABLES

Documents not copied, may be reviewed at the Indiana Department of Environmental Management's Office--Indianapolis, Indiana

DATE	TITLE	AUTHOR	RECIPIENT	DOC/ TYPE
9-28-93	OU2/TASK 7B	D WALSH	G HALER	LTR
3-18-94	OU3/TASK 3A, 3B, 3C, 3D	D WALSH	G HALER	LTR
10-29-93	OU3/TASK 3A, 3C	D WALSH	G HALER	LTR
8-5-93	OU3/TASK 3B, 3D	D WALSH	G HALER	LTR
10-29-93	OU3/TASK 3B, 3D	D WALSH	G HALER	LTR
6-10-94	OU3/TASK 3E	D WALSH	A GARCEAU	LTR
11-1-93	OU3/TASK 3E	D WALSH	G HALER	LTR
8-5-93	OU3/TASK 3E	D WALSH	G HALER	LTR
9-28-93	OU3/TASK 7B	D WALSH	G HALER	LTR
11-1-93	OU3/TASK 7B	D WALSH	G HALER	LTR
8-6-93	OU4/TASK 3A	D WALSH	G HALER	LTR
8-31-93	OU5/TASK 3C	D WALSH	G HALER	LTR
11-1-93	OU5/TASK 3C	D WALSH	G HALER	LTR
11-23-93	OU5/TASK 3B	D WALSH	G HALER	LTR
10-18-94	ANALYTICAL DATABASE OU1, OU2, OU3	D WALSH	A GARCEAU	LTR
9-14-94	FIELD DOCUMENTATION OU1,2,3, TASK 3	D WALSH	A GARCEAU	LTR
11-22-93	OU1/TASK 3A	D WALSH	G HALER	LTR
6-2-94	RADIONETIVITY VALIDATION	D WALSH	A GARCEAU	LTR

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ADMINISTRATIVE RECORD, CONTINENTAL STEEL
FIELD DOCUMENTATION/DELIVERABLES

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DATE	TITLE	AUTHOR	RECIPIENT	DOC/ TYPE
2-21-94	OU1/TASK 3M AQUIFER TESTING	K HEWITT	G HALER	LTR
5-20-93	OU3/TASK 3A, 3C INITIAL SEDIMENT			